

# A history of innovation

The Columbus McKinnon Corporation developed the first welded alloy steel overhead lifting chain, Herc-Alloy 800. The Hammerlok coupling link and Clevlok hook, two more inventions, enable our customers to assemble their own chain slings easily on site. And the Lodestar electric chain hoist has become an industry standard.

CM continues to lead the way with such product innovations as super strong Big Orange shackles and PiggyBack wedge socket clips. The CM Max pneumatic balancer features many design exclusives to increase safety and reduce stress related injury in the work place.

CM also supplies a full line of manipulators for routine or complex applications, including repetitive tasks. With standard or custom designs and tooling, Conco and Positech manipulators provide the capacity to lift, move, maneuver, position, reach or transfer heavy loads, even in tight spaces. CM Cady heavy duty lifters provide power below the crane hook. CM Guardian fall protection equipment includes a full line of harnesses, shock absorbers, lanyards, retractable lifelines and anchoring devices specifically designed for worker comfort and safety.

The following are trademarks of Columbus McKinnon Corporation, registered in the U.S. Patent and Trademark Office: **Apollo, Big Orange, Clevlok, CM, Cradle Grab, E-Z Pro, Hammerlok, Herc-Alloy 800, Latchlok, Lister, Lodestar, PiggyBack.**

The following are trademarks of Columbus McKinnon Corporation: **Bartender, Cady, Conco, Dixie, Guardian, Positech, Roto-Fork, Thermolink.**

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## CM electric & air chain hoists. Industry's workhorses.

Rugged & reliable.  
Overload protection.  
Nationwide network of Master Parts Depots.  
1/8 to 15 ton capacities.  
Made in U.S.A.

## CM hand hoists. Economy & value.

Maximum lifting efficiency.  
Positive load control.  
Lightweight & easy to handle.  
1/4 to 10 ton capacities.  
Made in U.S.A.



## CM Conco & Positech manipulators. Superhuman strength.

Wide range of ergonomic solutions.  
Perform lifting, rotating, turning, tilting, reaching & positioning tasks.  
Custom engineered end tooling.  
Made in U.S.A.



## CM Cady lifters. Power below the crane.

Lift rolls, coils, crates, bundles, sheets, pallets & more.  
Standard models & custom designs available.  
Made in U.S.A.



## CM electric wire rope hoists.

Built for rugged applications with heavy-duty cycle capability.  
Wide range of lifts, lifting speeds, clearances, mounting options & controls.  
1/2 ton to 20 ton capacities.  
Made in U.S.A.



## CM Max balancer. Effortless & precise.

Ergonomic positioning & transfers.  
100% duty cycle.  
Exclusive lost load protection.  
120, 200 & 300 pound capacities.  
Made in U.S.A.

## CM jib arm. Lateral moves.



Electrified/air lateral flexibility.  
Two 360° pivot arms maneuver in tight spaces.  
Effortless, ergonomic operation for accurate positioning.  
Capacities to 1 ton.  
Work envelopes to 32 feet.  
Made in U.S.A.

## CM accessories. Every rigging thing.



Full line of rigging hardware & attachments.  
Sleeves, sockets, shoulder eyebolts, turnbuckles, shackles, hooks, clamps & more.

# CMworks

## CM Guardian fall protection equipment. Performance plus.

Full line of harnesses, shock absorbers, lanyards, retractable lifelines & anchoring devices.  
Exceeds OSHA standards.  
Specifically designed for worker comfort & protection.  
Made in U.S.A.



## CM trolleys. Smooth operators.



Lightweight to heavy duty.  
Adapt to many installations.  
Capacities up to 10 tons.  
Made in U.S.A.

## CM lever tools. Rugged & versatile.

Easy operation.  
Positive load control.  
3/4 to 6 ton capacities.  
Made in U.S.A.



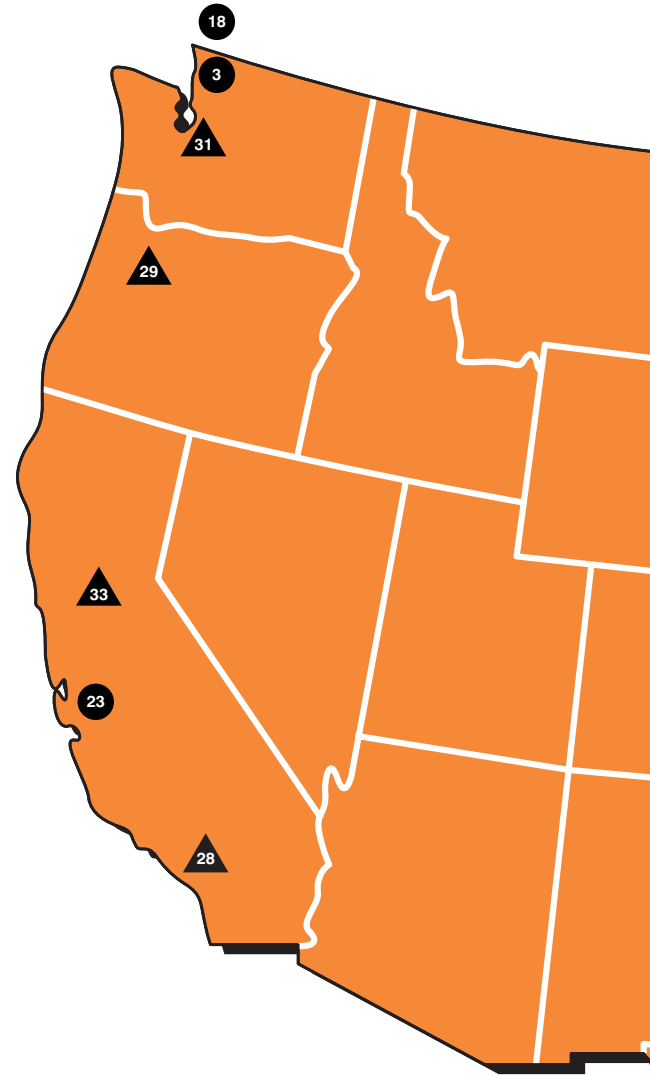
# CM solutions. Hard at work all over the world.

Today, Columbus McKinnon is one of the world's largest manufacturers of lifting devices and a leading name in material handling equipment. Our manufacturing facilities employ the most advanced quality control systems and techniques. Our product lines are sold in industrial, consumer, theatrical, medical and waste management markets worldwide through a network of more than 5000 independent distributors.

## All the support you need.

When it comes to factory and local support, no one can match CM's commitment to the satisfaction of our customers. In addition to our network of knowledgeable distributors, we provide on-site training seminars, factory safety schools, detailed product manuals, maintenance videos and kits, plus our comprehensive Customer Satisfaction Guarantee.

Additional support includes our direct sales force and factory direct technical assistance. CM products are serviced by strategically located Master Parts Depots, Chain Repair Stations and warehouses. For the location nearest you, call 1-800-888-0985.



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### ● CM Facilities

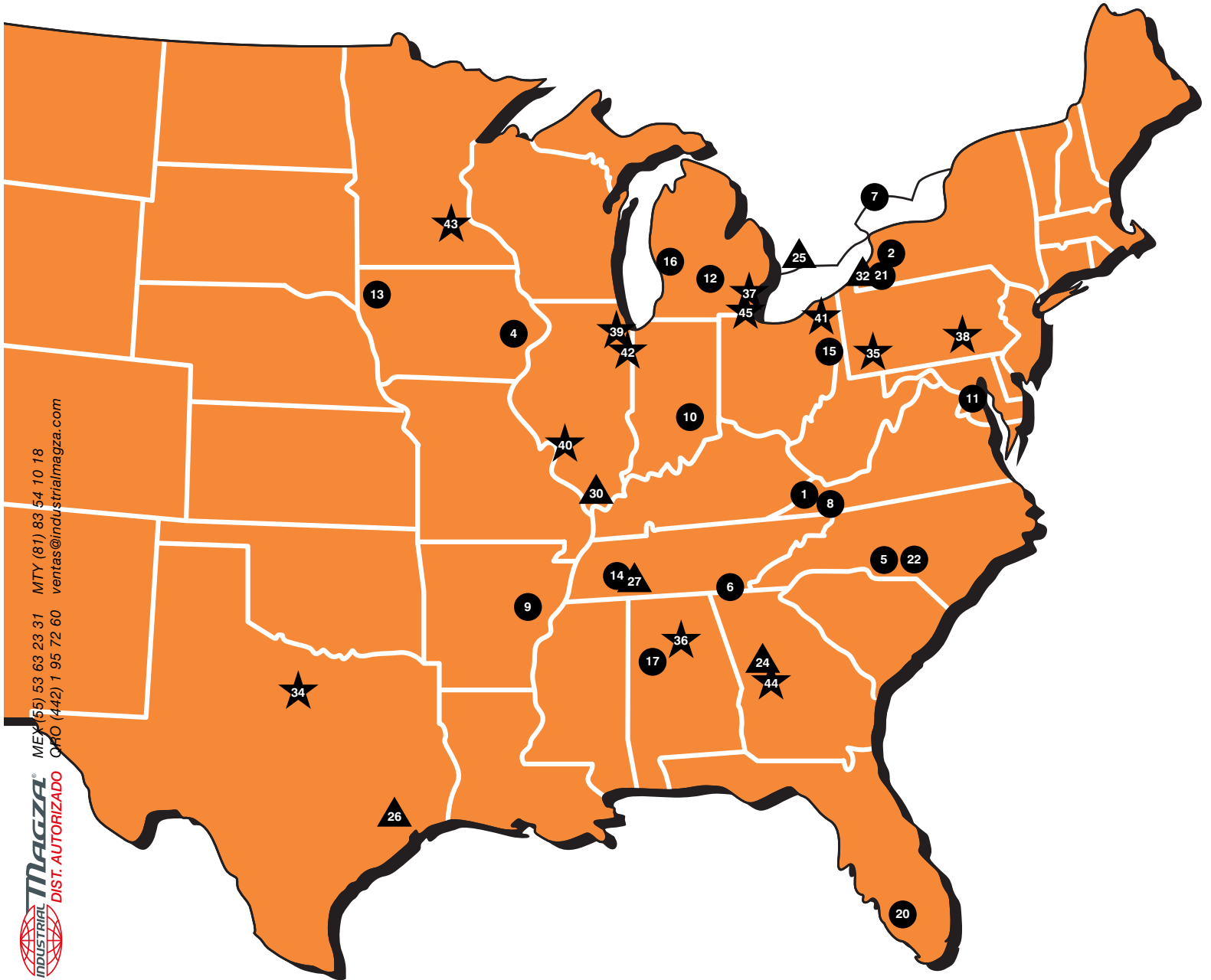
- † 1. Abingdon, Virginia  
CM Hand and Electric Hoists
- 2. Amherst, New York  
Worldwide Headquarters
- 3. Blaine, Washington  
Lister Bolt & Chain
- † 4. Cedar Rapids, Iowa  
Big Orange Forged Products
- † 5. Charlotte, North Carolina  
Duff-Norton Actuators,  
Rotary Unions, Jacks
- 6. Chattanooga, Tennessee  
(2 plants)  
Dixie Load Binders,  
Logging Tools
- † 7. Cobourg, Ontario, Canada  
CM Hoists & Chain
- † 8. Damascus, Virginia  
CM Hand and Electric Hoists
- † 9. Forrest City, Arkansas  
Yale Hoists
- 10. Greensburg, Indiana  
American Lifts Scissor Lifts

- 11. Hollywood, Maryland  
Commercial Circuit Devices
- 12. Jackson, Michigan  
Aerospace Circuit Devices
- † 13. Laurens, Iowa  
Positech Manipulators
- † 14. Lexington, Tennessee  
CM Herc-Alloy and  
Carbon Chain
- 15. Lisbon, Ohio  
Chester Specialty Hoists
- 16. Muskegon, Michigan  
Budgit Air, Hand & Electric  
Chain Hoists; Shaw Box  
Electric Wire Rope Hoists
- 17. Reform, Alabama  
Durbin Durco Stampings,  
Assemblies
- 18. Richmond, B.C., Canada  
Lister Bolt & Chain
- 19. Santiago Tianguistenco,  
Mexico  
Endor Hoists
- 20. Sarasota, Florida  
CM Tire Shredder

- 21. Tonawanda, New York  
Cady Lifters, Conco  
Manipulators, Mobility  
Products, Specialty Forgings
- 22. Wadesboro, North Carolina  
Coffing Hoists
- 23. Walnut Creek, California  
West Coast Sales Office

### ▲ CM Warehouse Locations

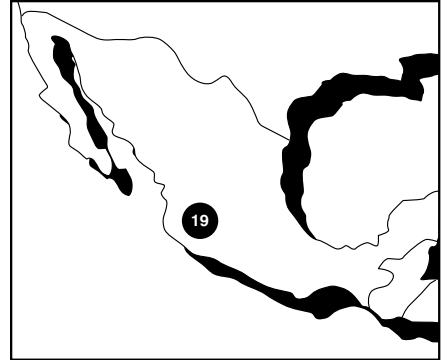
- † 24. Atlanta, Georgia
- † 25. Cambridge, Ontario, Canada
- † 26. Houston, Texas
- † 27. Lexington, Tennessee  
Fleet Distribution Center
- † 28. Ontario, California
- 29. Portland, Oregon
- † 30. Romeoville, Illinois
- 31. Seattle, Washington
- † 32. Tonawanda, New York
- 33. Woodland, California



★ **CM Chain Sling and Repair Stations**

- 34. American Sling  
Fort Worth, Texas
- 35. Amick Associates, Inc.  
Carnegie, Pennsylvania
- 36. Certex of Al.  
Bessemer, Alabama
- 37. Industrial Cable and Sling  
Detroit, Michigan
- 38. Lift-All Company, Inc.  
Manheim, Pennsylvania
- 39. Lift-All Company, Inc.  
Itasca, Illinois
- 40. Marcal Rope and Rigging, Inc.  
Alton, Illinois
- 41. Mazzella Wire Rope and  
Sling Co.  
Cleveland, Ohio
- 42. John Sakash Company  
Elmhurst, Illinois
- 43. C.C. Sharrow Company  
St. Paul, Minnesota
- 44. Superior Rope & Sling, Inc.  
Atlanta, Georgia
- 45. Vulcan Chain Company  
Detroit, Michigan

† ISO 9000 registered



# Product Reference

## CM chain systems

Because of its flexibility and ability to follow contours readily, chain is a versatile medium for lifting, towing, pulling and securing, or for any application where a force is to be exerted. Its ability to elongate prior to rupture gives the user adequate warning to remove it from service before bodily injury or property damage occurs.

Columbus McKinnon Corporation supplies a number of welded and weldless chains which are manufactured in accordance with the NACM Chain Specifications, Fed. Spec. RR-C-271 and ASTM Specs. for chain. In the welded category, CM manufactures both graded and non-graded chains. Graded chain is marked with the grade number approximately every 10 inches or less. Welded graded chains are suitable for applications in industry and construction, while welded non-graded chains are used primarily in non-technical applications where chain of lower strength than graded chain is acceptable.

Columbus McKinnon Corporation also manufactures three sizes of welded stainless steel chain.

Weldless chain, which is distributed in a variety of styles by Columbus McKinnon, is considered a utilitarian product to be used in various low strength applications. Such uses include playground equipment, suspension of fixtures, plumbing installations, building applications and myriad others.

### CM welded graded chain

Welded graded chain is an industrial grade chain used extensively in rigging, towing and overhead lifting applications. CM graded chains are manufactured in accordance with the NACM Specification for chain, ASTM Standard A391 and ASTM Standard A413. The standardized grade designations are 30, 43 and 70 for carbon steel chain, and 63 and 80 for alloy steel chain. The grade number relates to the strength level of the chain, with the grade number increasing as the strength of the chain increases.

Only Alloy Chain such as Herc-Alloy 800 chain is designed for overhead lifting. Other grade designated chains not made from alloy steel should not be used for overhead lifting.

### CM grade 30 proof coil chain

Electrically welded from low carbon steel, CM grade 30 is a durable, economical utility chain for applications which do not require a high strength to weight ratio. It has a wide range of applications throughout industry and agriculture, including logging, guard rails, towing, tailgates, and securing loads.

Specification name: Proof coil.

### CM grade 43 high test chain

A higher strength carbon steel chain provides an increased strength to weight ratio. Industrial applications include lumbering, construction, binding and load securement assemblies.

Specification name: High test.

### CM grade 70 binding chain

Load ratings for CM grade 70 chain average 20% higher than CM grade 43 chain, so a smaller size chain can be used for many jobs. Advantages include less weight, easier handling and more convenient storage. Higher strength makes CM grade 70 ideal for truckers, loggers and highway crews; for secure load binding and tie-downs; for towing, hauling and lashing, and as trawling chain. Additional uses include oil rigs and a variety of other OEM applications.

Specification name: Binding/transport.

### CM grade 80 Herc-Alloy 800 chain

The CM chain specifically recommended for overhead lifting, Herc-Alloy 800 is engineered from specially selected alloy steel for the highest strength to weight ratio and maximum durability. Increased strength enables the user to employ a lighter, smaller chain on many jobs.

Specification name: Alloy.

## CM alloy conveying chain

This chain is engineered from specially selected alloy steel for high strength and durability. The chain is available in metric sizes and in case hardened and through hardened heat treatments. Industrial applications include ash handling conveyors, furnace and damper door chains, dam gate chain and waste wood handling.

## CM attachments

Attachments are load transmitting components most frequently used in conjunction with chain and other equipment items. Attachments manufactured and marketed by Columbus McKinnon include hooks, mechanical coupling links, master links and rings. Attachments should have a working load limit at least equal to the chain with which they are used.

## CM hooks

Hooks may be used in a wide variety of applications for lifting, towing, pulling and securing, and are frequently used in conjunction with chain. There are specially tailored hooks to be used with the graded chains discussed earlier. Refer to American National Standard ANSI B30.10 for a discussion of hooks, inspection procedures and operating practices.

Columbus McKinnon Corporation supplies two general classifications of hooks: sling slip hooks, to which the load or force is applied to the base (bowl saddle) of the hook, and grab hooks, which contain a slot or throat of uniform width for securement on a link of the chain, usually to form a chain loop for supporting the load.

In addition to the hooks discussed above, Columbus McKinnon supplies a number of specialty and non-conventional hooks. These include foundry hooks, claw hooks, S hooks, plate hooks, sorting hooks, trek hooks, tie-down hooks, C hooks and tarp hooks.

All Columbus McKinnon conventional style hooks are manufactured of drop forged steel.

**⚠ WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

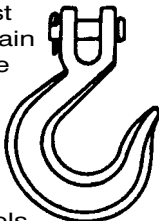
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### CM sling and slip hooks

Sling and slip hooks are similar in style but differ in material and application. Slip hooks are carbon steel and are used for general applications while sling hooks are alloy steel for sling applications.

### CM clevis slip hooks

Clevis slip hooks must be matched to the chain size. Designed for use primarily with graded chains and affixed directly to the chain. Available in heat treated carbon and heat treated alloy steels. (Compatible with grade 63 chain.) Load must be applied in line with clevis, placed firmly in the base (bowl saddle) of the hook.



**Note:** Alloy clevis slip hooks develop the mechanical properties of Grade 80 and 63, but are not recommended for overhead lifting sling applications.

### CM Clevlok sling hooks

Clevlok sling hooks must be matched to chain size and grade. Designed for sling use primarily with grade 80 chain and affixed directly to the chain. Available only in heat treated alloy steel with optional latch. Load must be applied in line with clevis, placed firmly in the base (bowl saddle) of the hook.



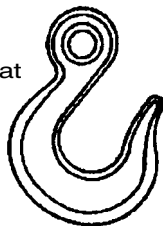
**Note:** The latch is designed to retain such items as slings and chains under slack conditions only and is not intended to support the load.

### CM eye slip & sling hooks

Eye slip hooks should be matched to chain size and grade. Designed for use primarily with graded chains. Must be affixed to the chain with either a welded or a mechanical coupling link. Load must be applied in line with eye placed firmly in the base (bowl saddle) of the hook.

### Type I: CM eye slip hooks

Available in un-heat treated carbon and heat treated alloy steels.



**Note:** The alloy steel version will not develop the strength of grade 80 chain, but meets alloy grade 63 chain requirements.

### Type II: CM eye sling hooks

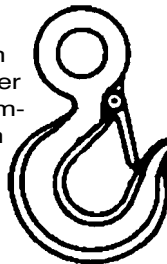
Available in heat treated alloy steel. Latch optional. Designed for sling use primarily with grade 80 chain. Also available in stainless steel for use in stainless steel slings.



**Note:** The latch is designed to retain such items as slings and chains under slack conditions and is not intended to support the load.

### CM rigging hooks

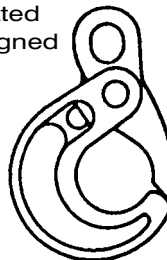
Similar to eye slip hooks except with an enlarged eye for larger couplers such as thimbles, etc. Available in heat treated carbon or heat treated alloy steels. A general purpose rigging hook with optional latch. Load must be applied in line with eye firmly in the base (bowl saddle) of the hook.



**Note:** Latch is designed to retain such items as slings and chains under slack conditions and is not intended to support the load.

### Type III: CM Latchlok hooks

Available in heat treated alloy steel only. Designed primarily for use with grade 80 chain. The latch is an integral part of the upper hook.



**Note:** The latch is designed to retain such items as slings and chains under slack conditions and is not intended to support the load.

### CM grab hooks

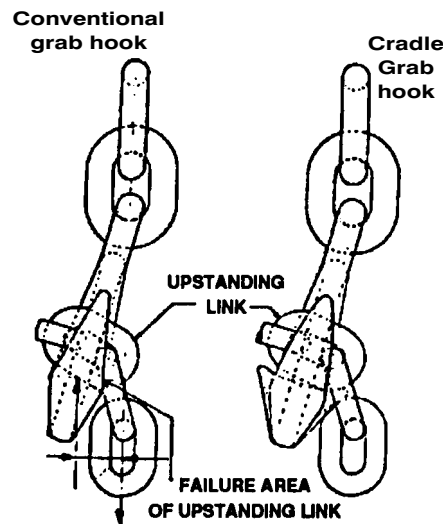
A conventional grab hook is designed to be hooked back onto the chain in a choker arrangement. The full working load limit can be achieved if the hitch angle is 30° or greater. Refer to working load limit table on page 14.

If used in other configurations such as direct tension, the working load limit of the assembly must be derated by 25%. The following figure shows why the link in the slot of a conventional grab hook is stressed more than the adjacent links. In addition to carrying its share of the straight tension load, the link must also withstand an additional bend-

ing caused by contact with the hook saddle. The link usually fractures in this arrangement at about 75% of the chain's normal breaking load.

With the Cradle Grab hook as shown in the illustration, the out-rigger's cradling action reduces bending distortion of the link in the chain slot and the chain typically develops full strength.

Refer also to warning that follows.



Comparison of conventional and Cradle Grab hooks

### CM conventional clevis grab hooks

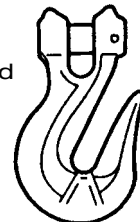
Clevis grab hooks must be matched to the chain size. Designed for use primarily with graded chains and affixed directly to the chain. Available in heat treated carbon and heat treated alloy steels.



**Note:** Alloy clevis grab hooks develop the mechanical properties of Grade 80 and 63, but are not recommended for overhead lifting sling applications.

### CM Clevlok Cradle Grab hooks

Clevlok Cradle Grab hooks must be matched to the chain size. Designed for use primarily with grade 80 chain and affixed directly to the chain. Available in heat treated alloy steel only.



**CM conventional eye grab hooks**

Eye grab hooks must be matched to the chain size. Designed for use primarily with graded chains. Must be affixed to chain with a welded or a mechanical coupling link. Available in un-heat treated carbon, heat treated carbon and heat treated alloy steels. Also available in stainless steel for use in stainless steel slings.



**CM eye Cradle Grab hooks**

Cradle Grab hooks must be matched to the chain size. Designed for use primarily with grade 80 chain. Must be affixed to chain with a welded or a mechanical coupling link. Available in heat treated alloy steel only.



**CM non-conventional hooks**

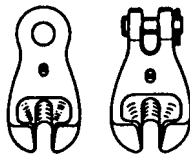
**CM foundry hooks**

Foundry hooks should be matched to the chain size. Available in heat treated alloy steel only. Designed for use primarily with grade 80 chain. Must be affixed to the chain with either a welded or a mechanical coupling link. Hook is suitable for sling use and in applications requiring a large throat opening or applications where another style hook may be subjected to tip loaded.



**CM claw hooks**

Claw hooks must be matched to the chain size. Available in heat treated carbon steel only. Designed for easy hook-up to loose or taut chain with one hand connection.



**CM S hooks**

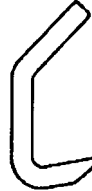
A utility type hook made of heat treated alloy steel. Most popular in applications requiring speed and convenience of attachment, such as conveyor systems. Also available in low carbon steel.



**CM specialty hooks designed for specific applications**

**CM plate hooks**

Plate hooks should be matched to the chain size. Available in heat treated alloy steel only. Designed for use primarily with grade 80 chain in a sling arrangement for the lifting of steel plates or flat planes. Optimum angle of the sling branches is 55° to 60°. Sling capacity must be derated accordingly.



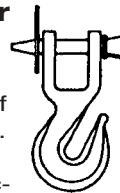
**CM sorting hooks**

Made of heat treated alloy steel. May be tip loaded at 25% of recommended working load limit in the base (bowl saddle) of the hook. Most useful for efficient handling of flat planes or large cylindrical shapes. Long tapered point designed for easy grab in rings, pear links, eye bolts and lifting holes.



**CM tractor drawbar grab hooks**

Hook must be matched to the chain size. Made of heat treated carbon steel. For use with 1/16 to 1/2 inch graded chain. Fits all tractor drawbars up to 1 1/8 inch thick.



**CM trek hooks**

Made of heat treated carbon steel.



**CM aircraft tie-down hooks/chain type**

Made of heat treated alloy steel. Designed for use with 3/32 inch grade 80 chain.



**CM aircraft tie-down hooks/cargo type**

Made of heat treated alloy steel. Designed for use with 3/32 inch grade 80 chain.



**CM tarp hooks**

Made of carbon steel in one size only, 3/8 inch x 3 1/2 inch. A general purpose light duty hook with a variety of uses. Secured in place with bolts. Used to tie down tarps.



**CM mechanical coupling links**

Columbus McKinnon Corporation supplies a number of coupling links. Some are suitable in the construction of slings, while others afford quick repair or splicing of welded carbon steel chain.

**Note:** Alloy steel chain G63 and G80 are not to be spliced or repaired.

**CM Hammerlok coupling link**

Constructed of drop forged alloy steel and used primarily in the construction of overhead lifting slings. Specifically used for connecting the chain branches to the master link and to the hook attachments. Meet the strength of grade 80 chain. Must be matched to the chain size. Not to be used for repair or splicing of the chain.



**CM mid-links**

Used for quick temporary or permanent repair of chain and for attaching chain hooks, rings, swivels, etc. Must be sized to the chain. Available in a range of sizes to fit 1/4 inch through 5/8 inch chain. Will develop the strength of grade 70 chain. Not to be used for overhead lifting.



**CM repair links**

Used for quick permanent repair of chain. Chain link and attachments are threaded onto the lap link and the link is flattened. Made of low carbon steel. Available in a variety of sizes, with stock diameters ranging from 1/8 inch through 5/8 inch. Must be matched to the working load limit of the chain. Not to be used for overhead lifting or cargo securement (tie-down).



**▲ WARNING**

- Improper use and care of grab hooks can result in bodily injury or property damage.
- **To avoid injury or damage:** When using conventional grab hooks in a choker arrangement, derate working load limit of the assembly according to the angle of chains forming the choker. Refer to table on page 14 outlining derating for sling angles.

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**CM connecting links**

A repair link intended for use with grade 30 chain. Available in a range of sizes to fit 3/16 inch through 1 inch stock diameter chain. Both halves are placed together and small protrusions are peened over. Not to be used for overhead lifting or cargo securement (tie-down).



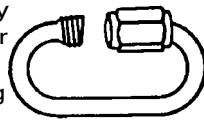
**CM cold shuts**

A permanent repair link for use with grade 30 and grade 43 chain. After threading link onto the chain, the plain end is inserted through the hole in the link and peened over. Must be matched to the working load limit of the chain, typically achieved by selecting a cold shut one size larger than the chain. Not to be used for overhead lifting or cargo securement (tie-down).



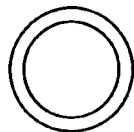
**CM quick links**

For quick and easy chain repair and/or attachment of fittings. Easy closing by threading nut onto threaded end. Reusable. Must be matched to the working load limit of the chain. Available in stock diameters ranging from 1/8 inch to 1/2 inch. Not to be used for overhead lifting or cargo securement (tie-down).



**CM rings & links**

While alloy steel rings and links may be used individually for overhead lifting and rigging applications, they are used most frequently as components of a sling. Rings and links are sized for use with grade 80 chain and enable the user to construct a balanced sling system for lifting and rigging.



**CM master rings**

Used universally in rigging applications because of their round configuration.

**CM oblong master links**

The optimum design for use in construction of slings. Oval design is an ideal configuration for use with crane hooks, since the depth of a hook



is normally greater than the width. May be used in any rigging application, including overhead lifting, and may be used independent of chain. Oblong master links have a greater capacity size for size than master rings because of their smaller width.

**CM oblong master link sub-assembly**

Designed primarily for constructing slings with multiple branches. Allows the user to construct a sling using mechanical couplers between the welded master couplers and the chain branches. Also available in stainless steel for use in constructing stainless steel slings.



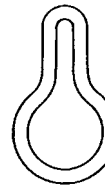
**CM pear shaped master links**

May be used for the same applications as oblong master links. Design is not optimum for multiple branch slings and in some cases may interfere with the crane hook.



**CM grab links**

Can be used to create a variable length loop type sling. A link of the chain is captured in the link slot similar to that of a grab hook. Narrow neck restricts their use.



**CM shackles**

Used in lifting and rigging applications, shackles are mechanical couplers which consist of a U shaped body closed by a pin. CM manufactures shackles in two general configurations: an anchor pattern and a chain pattern. The anchor pattern shackle has a more generous loop, better suited to multiple connections. Pins are available in various styles, including a round pin secured with a cotter pin, a screw pin secured by tightening, and a bolt, nut and cotter pin arrangement.

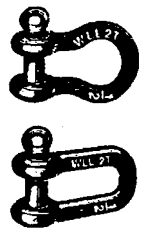
**Super Strong:** Due to greater strength and higher ductility than Carbon Steel Shackles of the same nominal section size, CM Shackles out-perform Carbon Steel Shackles of equal size. Load limits have been increased while maintaining current design factors. Big Orange Shackles now have working load

limits from 15 to 51% greater than equivalent size Carbon Shackles.

**Distortion Detector:** A quick and effective solution for detecting distortion in overloaded products. The Distortion Detector feature that appears on CM products is designed for visually indicating whether a product has been previously overloaded. A simple straight edge is all that's required to determine if a product should remain in service or be replaced. To be fit for use, the marks must align with a straight edge.

**CM screw pin anchor shackles & chain shackles**

Screw pin shackles afford quick and easy removal of the screw pin, which is secured by torque. Useful in applications where the shackle is removed frequently. While the threaded pin can resist axial forces, it is vulnerable to backing out, and the shackle is not reliable in applications where the pin is subjected to a torque or twisting action. Available in these materials, in capacities up to 43 tons:

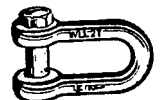


- A. Forged heat treated special bar quality steel body with forged heat treated alloy steel pin.†
- B. Forged heat treated alloy steel body with forged heat treated alloy steel pin.†
- C. Stainless steel body and pin. Available in anchor pattern only.

Alloy steel shackles are recommended for overhead lifting.

**CM logging/trawling shackles**

Similar to screw pin chain shackles, except that the pin has a hex head for convenience in tightening and loosening with a wrench. Shackle body is made of drop forged heat treated steel. Pin is made of heat treated alloy steel. Available in capacities up to 8½ tons.

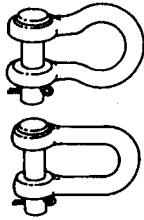


†Meets the requirements of Fed. Spec. RR-C-271D Amendment 1.

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**CM round pin anchor shackles & chain shackles**

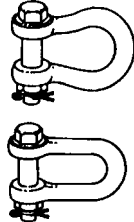
Round pin shackles afford easy removal of the pin, which is secured by a cotter pin. Perform well where the pin is subjected to a torque or twisting action.



Unsatisfactory in applications where the pin is subjected to an axial load. Available in capacities up to 35 tons. Forged heat treated steel body with forged heat treated alloy steel pin.†

**CM bolt, nut & cotter pin anchor shackles & chain shackles**

Of all shackle styles, bolt, nut and cotter pin shackles provide the most secure pin (bolt) arrangement. Will resist axial and torsional loading. Should be used in applications where shackle is semi-permanent and removed infrequently. Available in these materials, with capacities up to 40 tons:

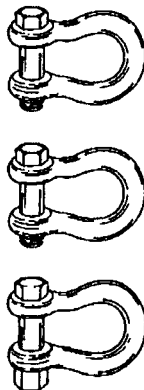


- A. Forged heat treated special bar quality steel body with forged heat treated alloy steel pin (bolt).†
- B. Forged heat treated alloy steel body with forged heat treated alloy steel pin (bolt). Available in anchor pattern only.†

Alloy steel shackles are recommended for overhead lifting.

**CM kiln shackles**

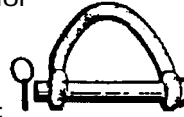
Made of carbon steel, alloy steel or stainless steel. Available in anchor pattern only, with these shackle closures: loose pin for welding, hex head screw pin, and full nut and bolt. Pins are available in three diameters for every size shackle, for match with type of service. Can be used in service up to 1000° F. Heat treatment optional to customer specifications.



†Meets the requirements of Fed. Spec. RR-C-271D Amendment 1.

**CM web sling shackles**

Designed primarily for use with web slings up to 6 inches in width. Body is heat treated carbon steel; pin is heat treated alloy steel. Available in capacities up to 12 tons.

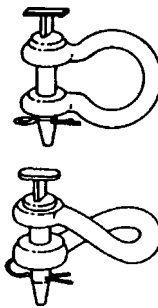


**CM clevises**

Available in configurations shown. Forged of steel components. Designed principally for farm or towing applications. Not to be used in construction or rigging applications.

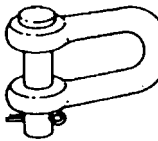
**CM straight & twist clevises**

Heavy duty tractor clevis with T handle pins and hairpin retainers for close hook-ups. Steel pin is heat treated. Available in capacities up to 12 tons.



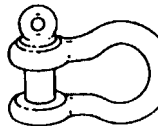
**CM utility clevises**

Loose pin harrow clevis. Heat treated steel body with heat treated alloy steel pin.



**CM farm clevises**

Screw pin anchor pattern body configuration for multiple hook-up. Heat treated steel body with heat treated alloy steel pin.



**CM wire rope attachments**

Columbus McKinnon supplies wire rope clips and thimbles which are used primarily for loop formation or turning back wire ropes.

**CM wire rope clips**

Used to secure the end of wire rope when forming a loop; i.e., for wire rope turn-back. Available in two configurations: mid-grip (double saddle) and single saddle. Each is equally strong and effective. Care must be exercised for proper installation of single saddle clips; i.e., saddle



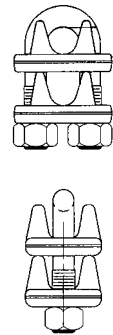
must rest against live end of wire rope. Use all clips in conjunction with wire rope thimble.

CM mid-grip clips are available in drop forged carbon steel; single saddle clips are available in malleable iron or drop forged carbon steel. Available in sizes up to 1½ inches. Malleable iron clips are manufactured in accordance with Fed. Spec. RR-C-271 and ASTM Spec. A47, while forged clips are manufactured in accordance with Fed. Spec. FF-C-450.

Do not use malleable iron wire rope clips for critical or lifting applications.

**CM PiggyBack wedge socket clip**

A revolutionary dual saddle design that secures the dead end of a wire rope on a wedge socket. Attaches quickly and easily to prevent crimping and damage to live end of wire rope. Eliminates need for short rope piece or loop on dead end. Properly secured dead end will not snag/foul and shear off at wedge socket. Available in ¾ inch to 1½ inch sizes. Hot dip galvanized with orange painted U-bolts and drop forged saddles.



“OSHA, the Occupational Safety and Health Administration, has agreed that a wire rope clip may be used in applications involving vibration to clip the dead end of the rope to the live end, preventing the socket from working loose and the rope from jumping out of the groove of the wedge. OSHA also recommends that a clip specifically designed for use with wedge sockets be used in such applications. The CM Big Orange PiggyBack wedge socket clip is the only clip on the market specifically designed for securing the dead end of a wire rope on a wedge socket.”

**CM wire rope thimbles**

Made specifically for wire rope turn-back, forming a cable loop. Used in conjunction with wire rope clips. Manufactured of hot rolled steel in accordance with Fed. Spec. FF-T-276. Available in sizes to fit a maximum wire rope diameter of 1½ inches.



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**CM steel swaging sleeves (Flemish eye)**

These carbon steel seam-less sleeves are used to securely anchor the strand ends of wire rope formed into a Flemish eye. CM swaging sleeves are zinc plated for rust resistance and color coded in smaller sizes for inventory control purposes and swaging verification. Available in sizes for ¼ to 2½ inch rope diameter.



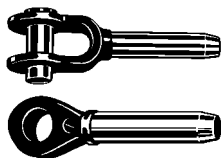
**CM steel swage buttons**

Steel swage buttons are typically used as wire rope terminations, but may be used at any rope location. They are for use with 6 x 7, 6 x 9, or 6 x 37 wire rope of IPS or XIP (EIP), RRL, FC, or IWRC configuration. Made of specially selected low carbon steel, they are available in sizes for ¼ to 1½ inch rope diameter.



**CM swage sockets (open & closed)**

These forged fine grain carbon steel swaging sockets are used as wire rope terminations. For use with 6 x 19 or 6 x 37 IWRC regular lay rope. Available in sizes for ¼ to 1¾ inch rope diameter.



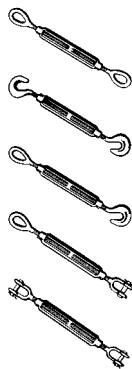
**CM swivels**

Swivels are used for eliminating twists in rope and chain load lines. CM swivels are forged of carbon steel and hot dip galvanized. They meet performance requirements of RR-C-271D, Type V11, Class 2, and are available in ¼ to 1 inch nominal diameter sizes.



**CM turnbuckles**

Turnbuckles provide easy means for tensioning and loosening (removal) of chain and rope load lines. CM turnbuckles are forged then hot dip galvanized. All meet Federal Specification FF-T-791b Type 1, Form 1. Turnbuckles are available in eye and eye, hook and



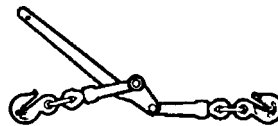
hook, hook and eye, eye and jaw, and jaw and jaw styles in sizes from ¼ to 1½ inch thread diameter.

**CM load binders**

Typically used to take up slack and apply tension to a tie-down system. Designed primarily for use with graded chains, they can also be used with cable, steel strap or fiber webbing. Available in two general configurations: lever type (over the center) and ratchet configuration. CM load binders are rated by working load limit, and are provided with hooks of various styles that will accept chain size and grade consistent with the load rating.

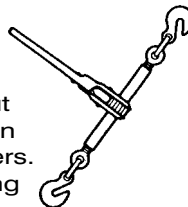
**CM lever type load binders**

Lever type (over the center) binders utilize the principle of mechanical advantage associated with a system of linkages. Tension can be applied and released quickly. Lever (handle) stores unobtrusively in line with load.



**CM ratchet type load binders**

Ratchet binders utilize the principle of the screw. Slower but easier to operate than lever type load binders. Do not require locking of handle.



**CM river ratchets**

Similar in operation to ratchet type load binders, but with a substantially larger capacity. Used to gang barges. Double pawl construction gravity operated. Available with a variety of attachments; one version depicted here.



**Cady Lifters**

Below the hook lifters are specialized grabs which attach, hold, protect, control, and orient a load in the material handling process. Many lifters are equipped with features which assist in load protection and collision prevention. In addition to many standard available models, lifters can be

custom engineered to meet specific application requirements. Whether catalogued or special, all Cady Lifters conform with ANSI/ASTM B30.20 titled "Below-the-Hook Lifting Devices."

**Glossary**

**ANSI**

Refers to American National Standards Institute. Specifications published by ANSI, 1430 Broadway, New York, NY 10018; (212) 642-4900.

**ASTM**

Refers to American Society of Testing and Materials. Specifications published by ASTM, 100 Barr Harbor Dr., West Conshohocken, PA 19428; (610) 832-9707.

**CVSA**

Commercial Vehicle Safety Alliance, 1620 Eye St. N.W., Washington, DC 20006; (202) 775-8658.

**DOT**

Department of Transportation 7th & D Streets S.W. Washington, D.C. 20590 (800) 832-5660

**NACM**

Refers to National Association of Chain Manufacturers. Specifications published by NACM, P.O. Box 3143, York, PA 17402-0143; (717) 840-1304.

**OSHA**

Occupational Safety & Health Administration, U.S. Department of Labor.

**Working load limit**

The working load limit of a chain is the maximum load in pounds that should ever be applied to a chain, even when the chain is new and the load is applied in direct tension to a straight length of chain.

**⚠ WARNING**

- Improper use, application and care of the items presented in this catalog can result in injury or property damage.
- **To avoid injury or damage:** Refer to CM lifting, pulling and binding product manual PMC-10 for additional use, care and inspection information.

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## Proof test

Proof test, or manufacturing test force, refers to a load in pounds which an attachment or chain (or both) has withstood during a test in which an increasing tension is applied to an attachment or straight length of chain. This is typically accomplished as part of the manufacturing or testing process.

## Minimum break load

Refers to a load in pounds, as applied to an attachment or chain at the time it left the factory, that has been found by representative testing to break the item under test of increasing force as applied by a standard testing machine. This is a manufacturing test and such data are not intended for service or design purposes.

## CM general information

### Important

The use of all mechanical equipment presents the possibility of personal injury or property damage if the equipment is not properly installed, operated or maintained. Before using CM chain, accessories, load binders, lifting clamps, or farm hardware, users should become thoroughly familiar with applicable installation, operation and maintenance requirements.

Observing these general precautions will also help to protect both operators and materials:

1. Inspect equipment before use. Do not use chains, hooks, shackles, links, clips or other equipment components that are bent, elongated, gouged,

nicked, excessively worn or damaged. Make certain that nuts, bolts, pins and other fasteners are tightened and secured. Make sure clamps are functional and will grip the load.

2. Do not exceed the working load limit of equipment. Refer to catalog for specific working load limit data.
3. Center load in hooks, shackles, rings and other such equipment components. Use spacers on bolts and pins as necessary to maintain center loading.
4. Do not apply load to hook latches; latches are to retain slack slings and chains only.
5. Avoid sudden jerks when applying the load. Rapid load application can produce overloading.
6. Free all twists, knots and kinks. Apply load in a straight line fashion.
7. Use only alloy chain and attachments (grade 80) for overhead lifting.
8. Use clamps and lifting equipment only if authorized and properly trained.

### Note:

Columbus McKinnon Corporation assumes no responsibility for the misuse or misapplication of any of its products. Products are provided with the express understanding that the purchaser and/or user are thoroughly familiar with the correct application and proper use. Warnings and definitions are provided as an aid to the user in understanding correct application and proper use.

The manufacturer does not accept any liability for damages which result from the product being used in excess of the working load limit or from abuse.

## CM repair/ replacement guarantee:

Columbus McKinnon Corporation, Amherst, N.Y., guarantees each new chain and forged product of its manufacture under normal use and service to be free from defects in material and workmanship. Our obligation, under this guarantee is limited to making good at our factory this product or any portion thereof, which within one year from this date shall have been returned to us and which on our examination shall disclose such defects. This guarantee shall be null and void if any repairs, annealing, plating, or heat treatment of chain or forged products has been made at any plant other than authorized by Columbus McKinnon Corporation.

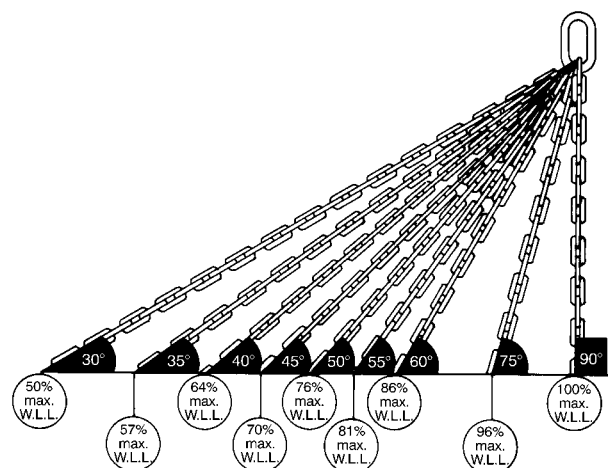
This guarantee is expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on our part, and we neither assume nor authorize any other person to assume for us any liability in connection with the sale or use of chain and forged products.

**To order CM products call your local stocking CM distributor or contact CM directly at 1-800-888-0985 to locate your nearest distributor, Master Part Depot or Chain Repair Stations.**

## How lifting angles reduce working load limits of slings.

Percentages shown represent the maximum working load limit of the sling when used at the designated angle.

For example, a  $\frac{3}{8}$ " double sling used at  $90^\circ$  would have a working load limit of 2 times the working load of a  $\frac{3}{8}$ " single or  $2 \times 7,100 \text{ lbs.} = 14,200 \text{ lbs.}$  The same double sling used at  $35^\circ$  would have a maximum working load limit of 57% of 14,200 lbs. or  $.57 \times 14,200 \text{ lbs.} = 8,094 \text{ lbs.}$



## CM Herc-Alloy 800 chain and attachments

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**CM Herc-Alloy 800 chain slings**

A higher strength heat treated alloy steel chain, CM grade 80 Herc-Alloy 800 chain is primarily used as a sling component for overhead lifting, but can be used in rigging and tie down applications where a lighter weight high strength chain is desirable. Recommended for overhead lifting by NACM, ANSI, & OSHA.

CM grade 80 Herc-Alloy 800 chain slings and attachments are manufactured from special analysis alloy steel, engineered for a superior combination of strength, lightness and durability.

All Herc-Alloy 800 chain and attachments are black finish and/or color coded orange for easy, permanent identification. The chain is embossed with the grade (HA-800) and trace code.

Before shipment, all CM Herc-Alloy 800 chain slings undergo a succession of demanding quality control checks. Every sling is proof tested, registered and guaranteed for one year to be free from defects in materials and workmanship. A durable metal tag attached to the sling permanently identifies the grade, type, working load limit (at a specific angle of lift) and registration number of the sling.

Chain slings are used primarily for overhead lifting and are generally used in conjunction with a crane or some type of lifting device. Standard sling configurations consist of chain branches which are affixed on one end to a master link or ring with some type of attachment, usually a hook, affixed to the opposite end.

**Types of chain slings**

In describing the type, the following symbols should be used. If attachments are other than standard, give detailed specifications.

First symbol (basic type):

- S — Single chain sling.
- C — Single choker chain sling with a standard end link on each end, no hooks.
- D — Double branch chain sling.
- T — Triple branch chain sling.
- Q — Quadruple branch chain sling.

Second symbol (type of master link or end link):

- O — Oblong master link of standard dimensions.
- P — Pear shaped master link (available on request, not a standard item).

Third symbol (type of hook):

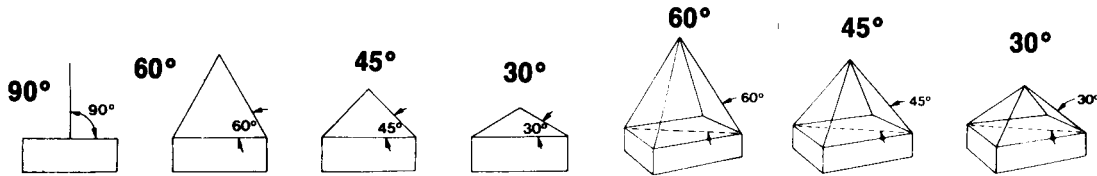
- S — Sling hook
- G — Grab hook
- F — Foundry hook
- L — Latchlok

Sling tags are coded with numerals 1 through 4 to reflect number of branches in sling. Additional coding is defined as follows:

- AS — Adjustable single
- ES — Endless single
- SAL — Single adjustable loop
- AD — Adjustable double
- SB — Single basket
- ED — Endless double
- DAL — Double adjustable loop
- DB — Double basket

**CM Herc-Alloy 800 chain sizes and working load limits**

Chain size (in.) (mm)	Nominal dimensions (inches)		Approx. no. links per ft.	Approx. weight per 100 ft. (lbs.)	Foot		Drum		Feet per drum
	Inside length	Inside width			Product code	UPC 43927-	Product code	UPC 43927-	
7/32 5.5	.671	.296	17.9	44.7	607020	20038	677010	20040	800
9/32 7.0	.868	.395	13.8	74.2	607028	20246	677011	20254	500
5/16 8.0	1.05	.454	11.4	90.6	607031	20551	—	—	—
3/8 10.0	1.222	.572	9.8	145.9	607037	20717	677013	20725	500
1/2 13.0	1.404	.720	8.5	257.7	607050	21038	677015	21045	300
5/8 16.0	1.733	.854	6.9	387.3	607062	21271	677016	21279	200
3/4 20.0	2.160	1.052	5.5	622.0	607075	21437	677017	21441	100
7/8 22.0	2.250	1.137	5.3	776.4	607087	21551	677018	21554	100
1 26.0	2.664	1.348	4.5	995.4	607101	21626	677019	21630	100
1 1/4 32.0	3.250	1.656	3.7	1,570.9	607128	21692	677070	21695	90



Working load limits (lbs.)

Chain size (in.) (mm)	Single	Double			Triple & quad		
	90°	60°	45°	30°	60°	45°	30°
7/32 5.5	2,100	3,600	3,000	2,100	5,450	4,450	3,150
9/32 7.0	3,500	6,100	4,900	3,500	9,100	7,400	5,200
5/16 8.0	4,500	7,800	6,300	4,500	11,700	9,450	6,750
3/8 10.0	7,100	12,300	10,000	7,100	18,400	15,100	10,600
1/2 13.0	12,000	20,800	17,000	12,000	31,200	25,500	18,000
5/8 16.0	18,100	31,300	25,600	18,100	47,000	38,400	27,100
3/4 20.0	28,300	49,000	40,000	28,300	73,500	60,000	42,400
7/8 22.0	34,200	59,200	48,400	34,200	88,900	72,500	51,300
1 26.0	47,700	82,600	67,400	47,700	123,900	101,200	71,500
1 1/4 32.0	72,300	125,200	102,200	72,300	187,800	153,400	108,400

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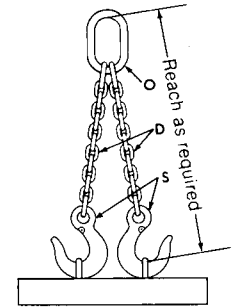
### How to select and order the proper chain sling

1. Determine the weight and configuration of the load(s) to be lifted.
2. Determine the type of chain sling required (see page 14), according to weight and configuration.
3. Determine the size of the body chain according to the working load limits on page 14. Be sure to take into consideration the effect of the required angle.
 

\*Working load limit: The working load limit is the maximum load in pounds which should ever be applied to chain, even when chain is new, and when load is uniformly applied in direct tension to a straight length of chain.
4. Determine the reach required to give the desired angle. The reach is measured from the upper bearing surface of the master link to the bearing surface of the lower attachment.

If chain slings are to be used in pairs and are to be matched for reach, please indicate when ordering.

5. Be sure to specify type, size and reach when ordering chain slings. For specifications on additional hooks, attachments and accessories, see pages 23 through 30.
6. Product UPC code represents the last five digits of the complete UPC code. Each product UPC code must be preceded by CM Identification No. 43927 in order to obtain complete UPC code number. Example: 43927-00000.



### CM Herc-Alloy 800 chain and attachments conversion table

Chain size			Hook size designation and markings			
Fraction (in.)	Decimal (in.)	Metric (mm)	Sling	Grab	Foundry	Latchlok
7/32	.218	5.5	HA22	10M	—	—
9/32	.281	7.0	HA220	HA1	HA498	9/32
3/8	.394	10.0	HA250	HA3	HA499	3/8
1/2	.512	13.0	HA280	HA5	HA500	1/2
5/8	.630	16.0	HA290	HA6	HA501	5/8
3/4	.787	20.0	HA300	HA7	HA502	3/4
7/8	.875	22.0	HA320	HA8	HA503	—
1	1.024	26.0	HA330	HA9	HA504	—
1 1/4	1.260	32.0	HA350	HA11	HA505	—

### Care, use and inspection

The life and strength of CM Herc-Alloy 800 chain slings depend on proper inspection, maintenance and use. For additional information, refer to ANSI B30.9 and OSHA 1910.184.

#### Care

Chain requires careful storage and regular maintenance.

- Store chains on an A frame in a clean, dry place.
- To avoid corrosion, oil chains before prolonged storage.
- Do not heat CM Herc-Alloy 800 chain; this will alter its thermal treatment.
- Do not plate or change surface finish of chain. Contact CM for special requirements.

#### Use

To protect both operators and materials, observe these precautions when using chain slings:

- Before use, inspect chain and attachments following the instructions under “Inspection” below.
- Do not exceed working load limit. Any of the factors listed here can reduce the load the chain will hold:
  - Acceleration in rate of load application—can produce dangerous overloading.
  - Variation in the angle of the load to the sling—as the angle decreases, the working load of the sling will increase.
  - Twisting, knotting or kinking—subjects links to unusual loading, decreasing the working load of the sling.
  - Use for purposes other than those for which slings are intended—can reduce the working load of the sling.
- Free chain of all twists, knots and kinks.
- Center load in hook(s); hook latches must not support load.
- Avoid sudden jerks when lifting and lowering.
- Balance all loads; avoid tipping of loads.

- Use pads around sharp corners.
- Do not drop load on chains.
- Match the size and working load limit of attachments such as hooks or rings to the size and working load limit of the chain.
- For overhead lifting, use only alloy chain and attachments (grade 80).

#### Inspection

It is important both to inspect chain slings regularly and to keep a record of all chain inspections. Follow this guide for such an inspection system.

- Before inspecting, clean chains with a non-acid/non-caustic solvent so that marks, nicks, wear and other defects are visible.
- Inspect each link for these conditions:
  - Twists or bends.
  - Nicks or gouges.
  - Excessive wear at bearing points.
  - Stretch.
  - Distorted or damaged master links, coupling links or attachments, especially spread in throat opening of hooks.
- Mark plainly with paint each link or attachment showing any of the conditions listed here to indicate rejection; remove from service until properly repaired.

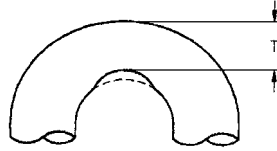
**\* ⚠ WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

1 Care, use and inspection (continued)

**Wear allowances of CM Herc-Alloy 800 chain**

Measure cross section at link ends to determine wear. If chain is worn to less than the minimum allowable thickness, remove from service.



Chain size		Minimum allowable thickness (T)	
Inches	mm	Inches	mm
7/32	5.5	0.185	4.7
9/32	7.0	0.239	6.1
3/8	10.0	0.335	8.5
1/2	13.0	0.435	11.1
5/8	16.0	0.536	13.6
3/4	20.0	0.669	17.0
7/8	22.0	0.744	18.9
1	26.0	0.870	22.1
1 1/4	32.0	1.071	27.2

Note: For sizes not listed, the Minimum Allowable Thickness can be calculated as 85% of the original material diameter.

**CM chain inspection programs**

CM provides chain users with a wide range of informative materials and instructive programs on chain and chain inspection. Our colorful chain safety poster/chart and our fact-filled booklet, "CM Lifting, Pulling & Binding Products Manual PMC-10," are available on request.

CM Chain seminars on proper chain use, care and inspection are conducted at our headquarters in Amherst, New York, and in plants across the country. Video cassette training programs, slide and film presentations and in-plant chain sling inspections are also available.

CM education programs are designed to promote the proper use of all CM products, and to assist users in complying with OSHA regulations.

**Use of chain under extreme temperature conditions**

When the chain itself is subjected to temperatures shown here, working load limits should be reduced as indicated.

Temperature of chain (°F)	Working load limit while at temperature <sup>1</sup>	Permanent reduction in working load limit <sup>2</sup>
< -40	not recommended	none
-40 to 400	100%	none
> 400 to 600	0.9	none
> 600 to 750	75%	10%
> 750	not recommended	Contact CM rep.

<sup>1</sup> While chain is at temperature shown in first column.

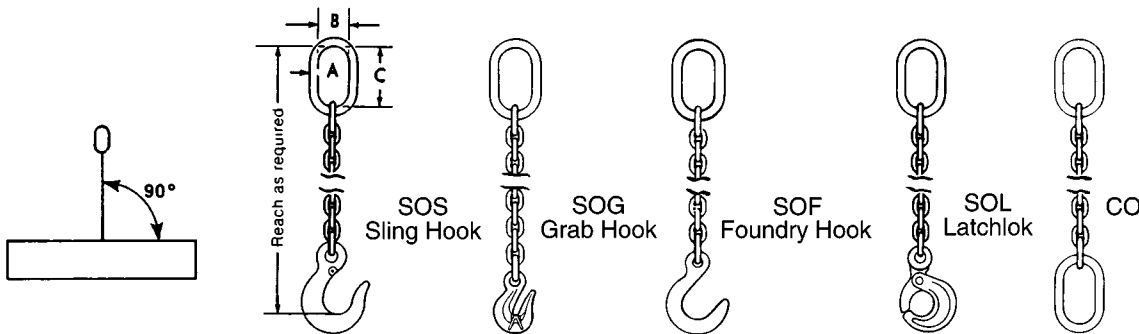
<sup>2</sup> When chain is used at room temperature after having been subjected to temperatures shown in first column.

**Certificate of test and identification**

The identification tag found on the master coupling link of each chain sling contains this information:

- Grade
- Size
- Reach
- Type
- Working load limit (at a specific angle of lift)
- Serial number

**CM single chain sling type S & C**



Chain size (in.) (mm)	Working load limit (lbs.)*	Master link number	Dimensions (inches)			Approx. weight (lbs.) Type SOS 5 ft. reach
			Diameter material A	Inside width B	Inside length C	
7/32	2,100	HA40	13/32	1 1/2	3	4
9/32	3,500	HA50	1/2	2 1/2	5	5
3/8	7,100	HA75	3/4	2 3/4	5 1/2	10
1/2	12,000	HA100	1	3 1/2	7	18
5/8	18,100	HA100	1	3 1/2	7	25
3/4	28,300	HA125	1 1/4	4 3/8	8 3/4	38
7/8	34,200	HA150	1 1/2	5 1/4	10 1/2	54
1	47,700	HA175	1 3/4	6	12	76
1 1/4	72,300	HA200	2	7	14	116

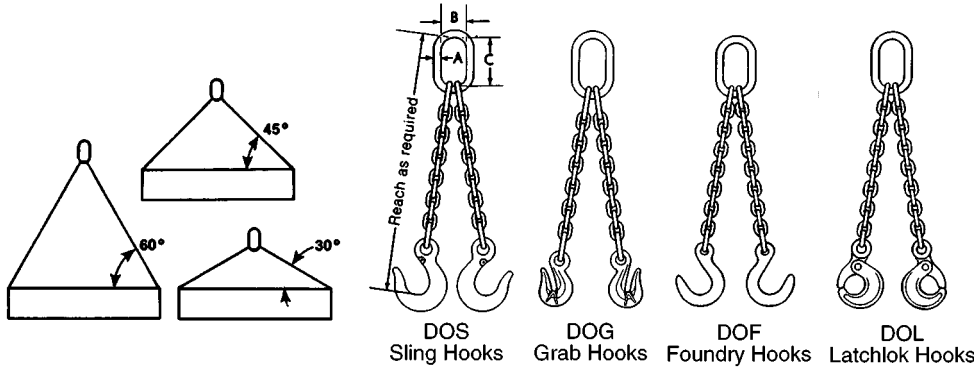
**\* ⚠ WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

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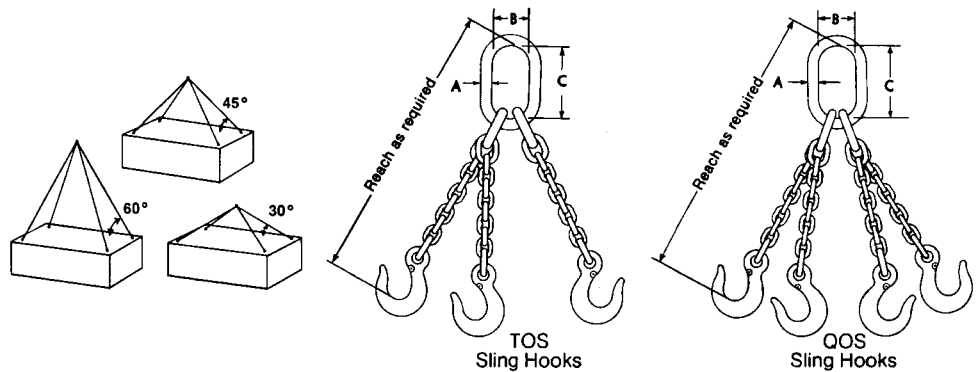
CM double chain sling type D



Chain size		Working load limit (lbs.)*			Master link number	Oblong master link			Approx. weight (lbs.)
						Dimensions (inches)			
(in.)	(mm)	60°	45°	30°	Diameter material A	Inside width B	Inside length C	Type DOS 5' reach	
7/32	5.5	3,600	3,000	2,100	HA40	13/32	1 1/2	3	8
9/32	7	6,100	4,900	3,500	HA50	1/2	2 1/2	5	9
3/8	10	12,300	10,000	7,100	HA75	3/4	2 3/4	5 1/2	18
1/2	13	20,800	17,000	12,000	HA100	1	3 1/2	7	31
5/8	16	31,300	25,600	18,100	HA125	1 1/4	4 3/8	8 3/4	49
3/4	20	49,000	40,000	28,300	HA150	1 1/2	5 1/4	10 1/2	71
7/8	22	59,200	48,400	34,200	HA175	1 3/4	6	12	98
1	26	82,600	67,400	47,700	HA200	2	7	14	132
1 1/4	32	125,200	102,200	72,300	HA225	2 1/4	8	16	221

CM triple & quad chain sling type T & Q

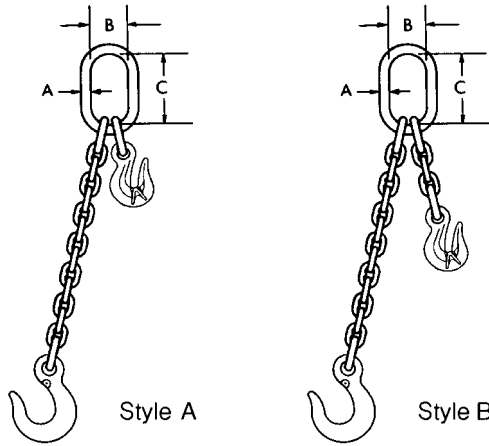
**Safety note:** A quad branch chain sling usually does not sustain loads with even distribution to its four branches, especially when loads are of rigid structure. Therefore, maximum working load limits are set at the same values as for triple branch chain slings of equal quality and size and used with branches at the same angle of inclination.



Chain size		Working load limit (lbs.)*			Master link sub-assembly number	Oblong master link sub-assembly			Approx. weight (lbs.)	
						Dimensions (inches)			Type TOS 5' reach	Type QOS 5' reach
(in.)	(mm)	60°	45°	30°	Diameter material A	Inside width B	Inside length C	Type TOS 5' reach	Type QOS 5' reach	
7/32	5.5	5,450	4,450	3,150	HA50-SA	1/2	2 1/2	5	12	16
9/32	7	9,100	7,400	5,200	HA75-SA	3/4	2 3/4	5 1/2	14	18
3/8	10	18,400	15,100	10,600	HA100-SA	1	3 1/2	7	28	36
1/2	13	31,200	25,500	18,000	HA125-SA	1 1/4	4 3/8	8 3/4	50	62
5/8	16	47,000	38,400	27,100	HA150-SA	1 1/2	5 1/4	10 1/2	79	97
3/4	20	73,500	60,000	42,400	HA175-SA	1 3/4	6	12	112	137
7/8	22	88,900	72,500	51,300	HA200-SA	2	7	14	155	188
1	26	123,900	101,200	71,500	HA225-SA	2 1/4	8	16	215	260
1 1/4	32	187,800	153,400	108,400	HA275-SA	2 3/4	9	16	348	421

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**CM adjustable single chain sling**

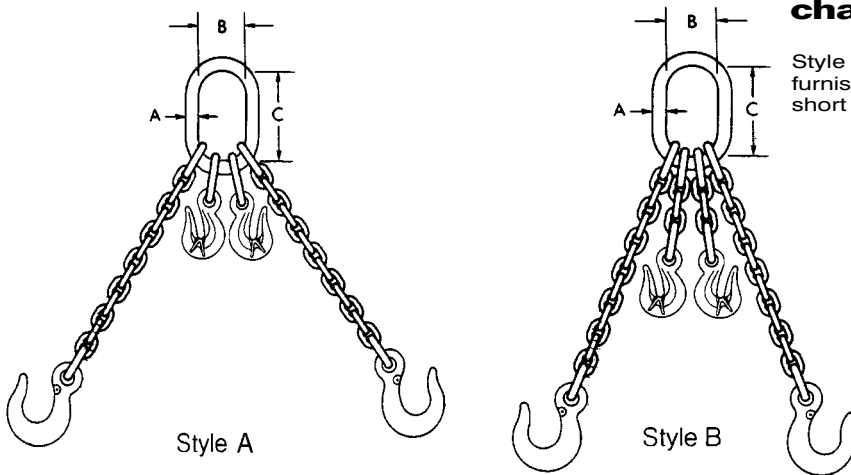
Style B single and double adjustable slings are furnished with approximately one (1) foot of chain in short branches unless otherwise specified in the order.

Oblong master link

Chain size		Working load limit (lbs.)*	Link no.	Dimensions (inches)		
(in.)	(mm)			Diameter material A	Inside width B	Inside length C
7/32	5.5	2,100	HA40	13/32	1 1/2	3
9/32	7	3,500	HA50	1/2	2 1/2	5
3/8	10	7,100	HA75	3/4	2 3/4	5 1/2
1/2	13	12,000	HA100	1	3 1/2	7
5/8	16	18,100	HA100	1	3 1/2	7
3/4	20	28,300	HA125	1 1/4	4 3/8	8 3/4
7/8	22	34,200	HA150	1 1/2	5 1/4	10 1/2
1	26	47,700	HA175	1 3/4	6	12
1 1/4	32	72,300	HA200	2	7	14

**CM adjustable double chain sling**

Style B single and double adjustable slings are furnished with approximately one (1) foot of chain in short branches unless otherwise specified in the order.

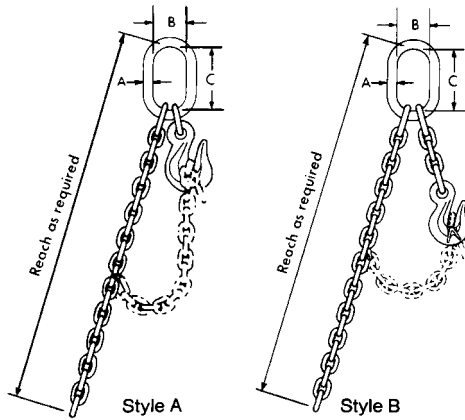


Oblong master link

Chain size		Working load limit (lbs.)*			Master link number	Dimensions (inches)		
(in.)	(mm)	60°	45°	30°		Diameter material A	Inside width B	Inside length C
7/32	5.5	3,600	3,000	2,100	HA40	13/32	1 1/2	3
9/32	7	6,100	4,900	3,500	HA50	1/2	2 1/2	5
3/8	10	12,300	10,000	7,100	HA75	3/4	2 3/4	5 1/2
1/2	13	20,800	17,000	12,000	HA100	1	3 1/2	7
5/8	16	31,300	25,600	18,100	HA125	1 1/4	4 3/8	8 3/4
3/4	20	49,000	40,000	28,300	HA150	1 1/2	5 1/4	10 1/2
7/8	22	59,200	48,400	34,200	HA175	1 3/4	6	12
1	26	82,600	67,400	47,700	HA200	2	7	14
1 1/4	32	125,200	102,200	72,300	HA225	2 1/4	8	16

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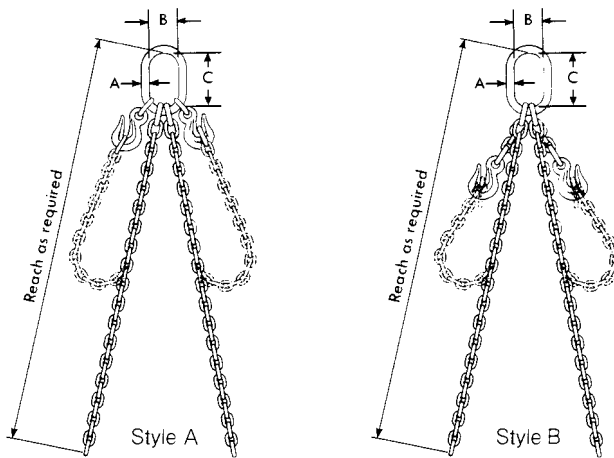


**CM adjustable single loop chain sling**

Style B furnished with approximately one (1) foot of chain in short branches.

Chain size		Working load limit (lbs.)*		
(in.)	(mm)	60°	45°	30°
7/32	5.5	3,600	3,000	2,100
9/32	7	6,100	4,900	3,500
3/8	10	12,300	10,000	7,100
1/2	13	20,800	17,000	12,000
5/8	16	31,300	25,600	18,100
3/4	20	49,000	40,000	28,300
7/8	22	59,200	48,400	34,200
1	26	82,600	67,400	47,700
1 1/4	32	125,200	102,200	72,300

Master link number	Oblong master link		
	Dimensions (inches)		
	Diameter material A	Inside width B	Inside length C
HA40	13/32	1 1/2	3
HA50	1/2	2 1/2	5
HA75	3/4	2 3/4	5 1/2
HA100	1	3 1/2	7
HA125	1 1/4	4 3/8	8 3/4
HA150	1 1/2	5 1/4	10 1/2
HA175	1 3/4	6	12
HA200	2	7	14
HA225	2 1/4	8	16



**CM adjustable double loop chain sling**

Style B furnished with approximately one (1) foot of chain in short branches.

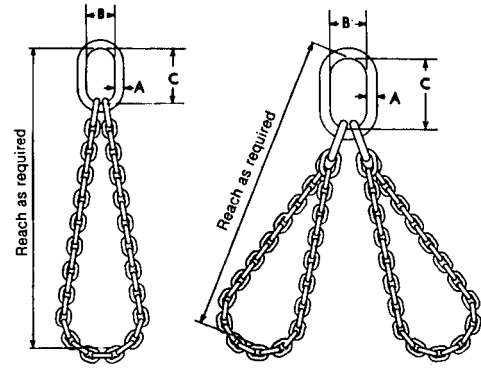
Chain size		Working load limit (lbs.)*		
(in.)	(mm)	60°	45°	30°
7/32	5.5	5,450	4,450	3,150
9/32	7	9,100	7,400	5,200
3/8	10	18,400	15,100	10,600
1/2	13	31,200	25,500	18,000
5/8	16	47,000	38,400	27,100
3/4	20	73,500	60,000	42,400
7/8	22	88,900	72,500	51,300
1	26	123,900	101,200	71,500
1 1/4	32	187,800	153,400	108,400

Master link sub-assembly number	Oblong master link sub-assembly		
	Dimensions (inches)		
	Diameter material A	Inside width B	Inside length C
HA50-SA	1/2	2 1/2	5
HA75-SA	3/4	2 3/4	5 1/2
HA100-SA	1	3 1/2	7
HA125-SA	1 1/4	4 3/8	8 3/4
HA150-SA	1 1/2	5 1/4	10 1/2
HA175-SA	1 3/4	6	12
HA200-SA	2	7	14
HA225-SA	2 1/4	8	16
HA275-SA	2 3/4	9	16

**\* ⚠ WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

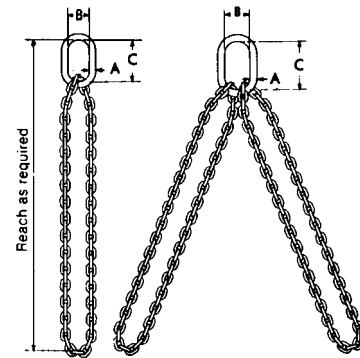
1 CM basket type chain sling single & double



Oblong master link

Chain size (in.) (mm)		Working load limit (lbs.)*		Single basket				Double basket			
		60°		Master link number	Diameter material A	Inside width B	Inside length C	Sub-assembly number	Diameter material A	Inside width B	Inside length C
Single	Double										
7/32	5.5	3,600	5,450	HA40	13/32	1 1/2	3	HA50-SA	1/2	2 1/2	5
9/32	7	6,100	9,100	HA50	1/2	2 1/2	5	HA75-SA	3/4	2 3/4	5 1/2
3/8	10	12,300	18,400	HA75	3/4	2 3/4	5 1/2	HA100-SA	1	3 1/2	7
1/2	13	20,800	31,200	HA100	1	3 1/2	7	HA125-SA	1 1/4	4 3/8	8 3/4
5/8	16	31,300	47,000	HA125	1 1/4	4 3/8	8 3/4	HA150-SA	1 1/2	5 1/4	10 1/2
3/4	20	49,000	73,500	HA150	1 1/2	5 1/4	10 1/2	HA175-SA	1 3/4	6	12
7/8	22	59,200	88,900	HA175	1 3/4	6	12	HA200-SA	2	7	14
1	26	82,600	123,900	HA200	2	7	14	HA225-SA	2 1/4	8	16
1 1/4	32	125,200	187,800	HA225	2 1/4	8	16	HA275-SA	2 3/4	9	16

CM endless basket chain sling single & double



Oblong master link

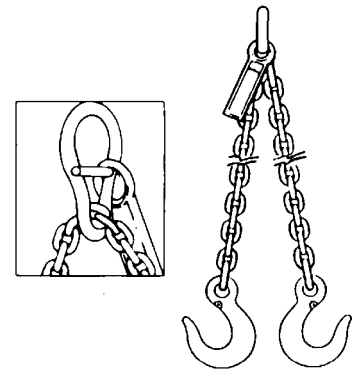
Chain size (in.) (mm)		Working load limit (lbs.)*		Single basket				Double basket			
		90°	60°	Master link number	Diameter material A	Inside width B	Inside length C	Sub-assembly number	Diameter material A	Inside width B	Inside length C
Single	Double										
7/32	5.5	2,100	3,600	HA40	15/32	1 1/2	3	HA50	1/2	2 1/2	5
9/32	7	3,500	6,100	HA50	1/2	2 1/2	5	HA75	3/4	2 3/4	5 1/2
3/8	10	7,100	12,300	HA75	3/4	2 3/4	5 1/2	HA100	1	3 1/2	7
1/2	13	12,000	20,800	HA100	1	3 1/2	7	HA125	1 1/4	4 3/8	8 3/4
5/8	16	18,100	31,300	HA125	1 1/4	4 3/8	8 3/4	HA150	1 1/2	5 1/4	10 1/2
3/4	20	28,300	49,000	HA150	1 1/2	5 1/4	10 1/2	HA175	1 3/4	6	12
7/8	22	34,200	59,200	HA175	1 3/4	6	12	HA200	2	7	14

**\*WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

**CM tool box sling**

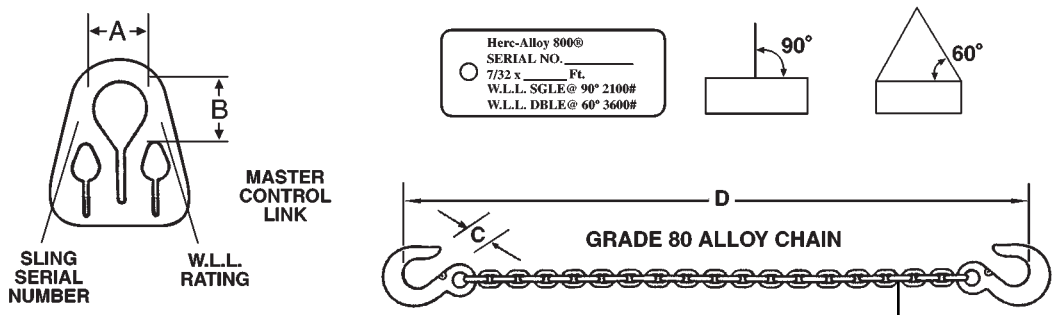
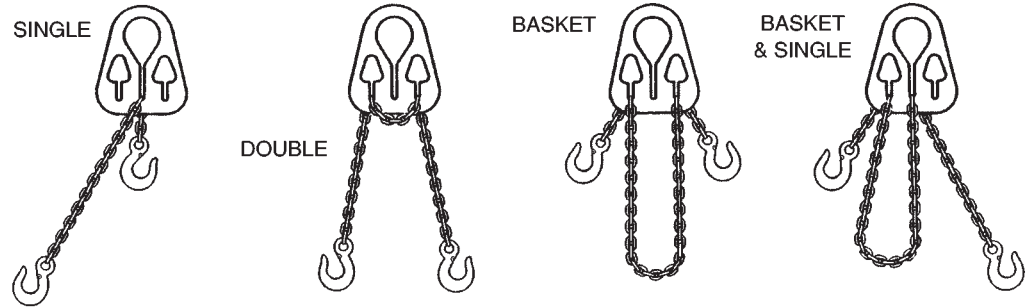
- Adjustable all-purpose utility sling
- Lifts even/uneven loads easily
- Lightweight and portable
- Saves time
- Available in 6' and 10' reach
- Hook latch optional



Chain size		Product code	UPC 43927-	Total length (ft.)	Working load limit (lbs.)*	Latch kit code
(in.)	(mm)					
7/32	5.5	607970	20920	6	2100	595461
7/32	5.5	607973	20923	10	2100	595461

**CM Adjust-A-Link sling**

- Adjustable all-purpose sling
- Lifts even/uneven loads easily
- Lightweight and portable
- Available in 6' and 10' reach
- Available in 7/32", 9/32" x 3/8" grade 80 alloy chain
- All components proof tested
- Alloy steel master/control link
- Each assembly serialized and tagged



Chain size (in.)	Product code	UPC 43927-	Chain reach D (ft.)	Working load limit (lbs.)*		Link Dimensions (in.)			Weight (lbs.)
				Single @ 90°	Double @ 60°	A	B	C	
7/32	607971	20921	6	2,100	3,600	2	2	15/16	4 1/2
7/32	607972	20922	10	2,100	3,600	2	2	15/16	6 1/2
9/32	607974	20924	6	3,500	6,100	3	3 1/2	1 1/16	8
9/32	607975	20925	10	3,500	6,100	3	3 1/2	1 1/16	11
3/8	607976	20926	10	7,100	12,300	3 1/4	3 1/4	19/16	19

Adjust-A-Link is a registered trademark of LiftAll

**\* ⚠ WARNING**

Improper use and care of chain slings can result in bodily injury or property damage.

**To avoid injury or damage:**

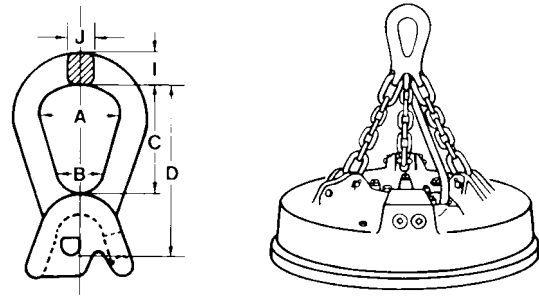
- Never exceed the Working Load Limit (W.L.L.). W.L.L. decreases as the angle from horizontal decreases. Do not use at horizontal angle or less than 45°.
- Always inspect slings before each use for wear damage or elongation. Refer to ANSI B30.9, OSHA regulation, and CM Manual PMC-10.
- Seat chain fully in adjusting slot of master control link.
- Do not substitute another chain, or use Adjust-A-Link chain or master control link separately.
- Securely attach and balance load. Make sure chain is not twisted, knotted, or kinked.
- Do not impact load or jerk the sling.
- Protect chain from sharp corners and objects.
- Use only alloy chain and components for overhead lifting.

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**CM bail-type magnet chain assemblies**

An alloy casting supplied with welded links and chain.  
Magnet not included with assembly.

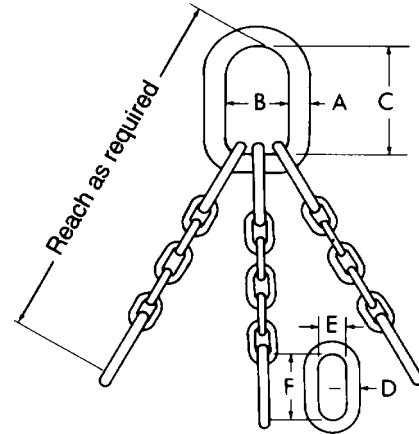


Chain size (in.)	Product code	UPC 43927-	Magnet diameter (in.)	Assembly working load limit (lbs.)*	Bail (inches)						End link (inches)			Standard reach (in.)**	Length of 2 body chain links (in.)**	Assembly weight (lbs.)
					A	B	C	D	I	J	Dia. A	Inside width B	Inside length C			
3/4	607442	20932	39 to 44	59,500	4 1/4	3	7	11 1/4	2	2	7/8	2	5	31 1/4	4	69.4
7/8	607443	22535	44 & 45	74,500	4 1/4	3	7	11 1/4	2	2	1	2 1/4	5 3/4	34	4 1/2	83.8
1	607444	20933	45 to 60	101,000	5 3/16	3 1/2	8	12 3/4	2 3/8	2 1/4	1 1/8	2 1/4	5 3/4	37 9/16	5 9/16	125.9
1 1/4	607445	22785	over 60	149,000	7 1/2	6	11	17	2 1/2	2 1/2	1 1/2	3 1/8	8	49 1/4	6 1/2	265.5

\*\*If additional reach is required, add 2 link increments to standard total reach.

**CM standard triple branch magnet chains**

Assembled with 5 links of body chain in each branch.



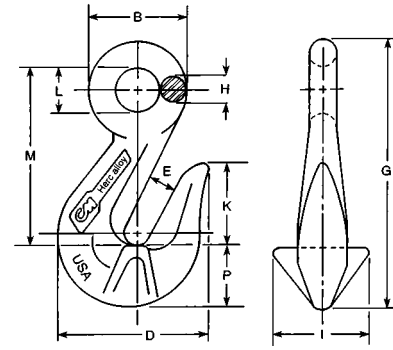
Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Magnet diameter (in.)	Master link (inches)			End link (inches)			Standard reach (in.)**	Approx. weight (lbs.)	Length of 2 body chain links (in.)
					Diameter A	Inside width B	Inside length C	Diameter D	Inside width E	Inside length F			
5/8	47,000	604701	20927	up to 39	1 3/4	5	8	3/4	2	5	26 3/4	40	3 1/2
3/4	73,500	604702	20928	39 to 44	1 3/4	5	8	7/8	2	5	28	49	4
7/8	88,900	604703	20929	44 & 45	2	5	9	1	2 1/4	5 3/4	31 3/4	72	4 1/2
1	123,900	604704	20930	45 to 60	2	5	9	1 1/8	2 1/4	5 3/4	33 13/16	91 1/2	5 3/8
1 1/4	187,800	604705	20931	over 60	2 1/2	6 1/2	12	1 1/2	3 1/8	8	44 1/4	193 1/2	6 1/2

\*\*If additional reach is required, add 2 link increments to standard total reach.

**\*WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

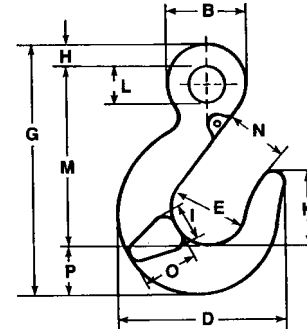
**CM Cradle Grab hook—  
100% proof tested**



Chain size (in.) (mm)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)											Weight each (lbs.)
				B	D	E	G	H	I	K	L	M	P		
7/32 5.5	2,100	559318	45060	1.19	1.75	.36	2.69	.38	1.19	.96	.63	1.63	.70	.35	
9/32 7	3,500	559325	44959	1.38	1.81	.36	3.44	.38	1.19	.99	.63	2.36	.70	.40	
3/8 10	7,100	559337	44922	1.78	2.63	.45	4.67	.50	1.75	1.48	.78	3.11	1.06	1.06	
1/2 13	12,000	559350	45265	2.28	3.34	.59	5.86	.63	1.88	1.98	1.03	3.94	1.30	2.26	
5/8 16	18,100	559362	44917	2.75	4.08	.75	7.13	.75	2.25	2.63	1.25	4.78	1.59	4.36	
3/4 20	28,300	559575	45063	3.19	5.23	.88	8.99	.88	2.88	3.50	1.44	6.25	1.88	8.82	
7/8 22	34,200	559387	42060	3.75	5.69	1.00	9.63	1.00	3.00	3.75	1.75	6.50	2.12	10.40	
1 26	47,700	559100	44989	4.31	7.00	1.19	12.44	1.22	3.88	4.31	1.88	8.09	3.12	20.90	
1 1/4† 32	72,300	559124	42052	5.38	8.50	1.50	15.56	1.56	3.50	5.50	2.25	10.50	3.50	40.00	

†Not cradle type

**CM sling hook\*\* without latch—  
100% proof tested**

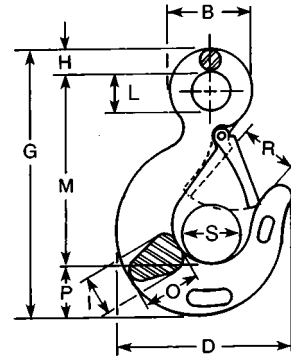


Chain size (in.) (mm)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)											Weight each (lbs.)	
				B	D	E	G	H	I	K	L	M	N	O		P
7/32 5.5	2,100	458544	42023	—	3.31	1.44	4.30	.38	.78	1.25	.75	3.06	1.25	1.00	.86	.7
9/32 7	3,500	458722	42000	1.62	3.50	1.50	5.25	.44	.73	1.59	.75	3.75	1.19	1.20	1.05	1.1
3/8 10	7,100	458725	44887	2.06	4.34	1.88	6.64	.56	.95	2.19	.94	4.78	1.44	1.45	1.28	1.9
1/2 13	12,000	458728	45259	2.63	5.50	2.25	8.16	.75	1.17	2.56	1.13	5.69	1.78	1.94	1.66	4.5
5/8 16	18,100	458729	44951	3.06	6.34	2.63	9.66	.88	1.44	2.63	1.31	6.50	2.03	2.38	2.19	7.3
3/4 20	28,300	458730	44992	3.50	7.83	3.00	11.38	1.00	1.69	3.44	1.50	7.81	2.50	2.83	2.51	11.4
7/8 22	34,200	458732	44994	3.88	8.59	3.38	12.72	1.09	1.94	3.88	1.69	8.75	2.78	3.22	2.84	18.1
1 26	47,700	458733	45079	4.31	9.59	4.00	14.23	1.22	2.14	4.25	1.88	9.88	3.13	3.55	3.09	22.6
1 1/4 32	72,300	458735	45103	5.31	11.56	4.66	17.00	1.50	2.62	4.64	2.31	11.50	3.88	4.25	3.89	36.0

\*\*Available from stock with/without latch. Replacement latch kits are also available, see page 27. User must determine if latch is required on the hook.

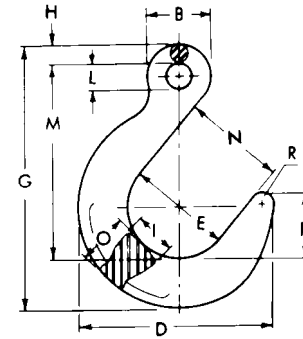
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**1 CM sling hook with latch—  
100% proof tested**



Chain size (in.) (mm)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)													Weight each (lbs.)
				B	D	G	H	I	L	M	O	P	R	S			
7/32	5.5	2,100	558544	42031	—	3.31	4.30	.38	.78	.75	3.06	1.00	.86	1.11	1.11	.7	
9/32	7	3,500	558322	44929	1.63	3.50	5.25	.44	.73	.75	3.75	1.20	1.05	1.06	1.06	1.1	
3/8	10	7,100	558325	44888	2.06	4.34	6.64	.56	.95	.94	4.78	1.45	1.28	1.31	1.31	1.9	
1/2	13	12,000	558328	45261	2.63	5.50	8.16	.75	1.17	1.13	5.69	1.94	1.66	1.56	1.63	4.5	
5/8	16	18,100	558329	44974	3.06	6.34	9.66	.88	1.44	1.31	6.50	2.38	2.19	1.75	1.75	7.3	
3/4	20	28,300	558330	44993	3.50	7.83	11.38	1.00	1.69	1.50	7.81	2.83	2.51	2.19	2.19	11.4	
7/8	22	34,200	558332	44995	3.88	8.59	12.72	1.09	1.94	1.69	8.75	3.22	2.84	2.38	2.38	18.1	
1	26	47,700	558333	45080	4.31	9.59	14.23	1.22	2.14	1.88	9.88	3.55	3.09	2.78	2.88	22.6	
1 1/4	32	72,300	558335	45104	5.31	11.28	17.00	1.50	2.62	2.31	11.50	4.25	3.89	3.41	3.41	36.0	

**CM foundry hook—  
100% proof tested**



Chain size (in.) (mm)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)													Weight each (lbs.)
				B	D	E	G	H	I	K	L	M	N	O	R		
9/32	7	3,500	474498	42073	1.56	4.75	2.50	6.45	.47	1.00	1.56	.63	4.75	2.50	1.23	.25	2.4
3/8	10	7,100	474499	42074	2.00	5.75	3.00	7.88	.63	1.27	1.88	.75	5.75	3.00	1.50	.31	4.5
1/2	13	12,000	474500	42075	2.50	6.75	3.50	9.38	.75	1.50	2.22	1.00	6.88	3.50	1.75	.37	7.1
5/8	16	18,100	474501	42076	3.00	7.81	4.00	10.97	.88	1.81	2.63	1.25	8.06	4.00	2.03	.43	11.6
3/4	20	28,300	474502	42077	3.50	9.13	4.50	12.81	1.00	2.20	3.00	1.50	9.25	4.50	2.56	.50	20.0
7/8	22	34,200	474503	42078	4.00	10.14	5.00	14.23	1.13	2.25	3.38	1.75	10.38	5.00	2.78	.56	26.0
1	26	47,700	474504	42079	4.50	11.13	5.50	15.84	1.25	2.59	3.75	2.13	11.56	5.50	3.03	.62	36.8
1 1/4	32	72,300	474505	42080	5.13	12.84	6.00	18.03	1.38	3.17	4.25	2.38	12.88	6.00	3.81	.75	58.4

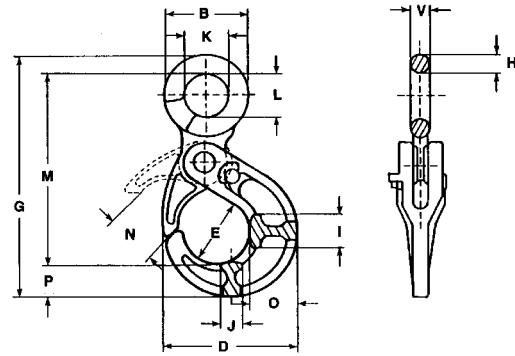
**\*▲WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.



**CM Large Eye Latchlok hook—  
proof tested**

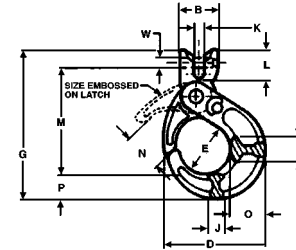
- For simplified rigging and secure load attachment.
- Recessed push button thumb release will not open accidentally, even if chain slacks; eliminates danger of an open hook snagging on a projection.
- Large Eye accepts wire rope thimbles.



Chain size (in.) (mm)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)																Weight each (lbs.)
				B	D	E	G	H	I	J	K	L	M	N	O	P	V			
9/32 7	3,500	674514	60005	2 3/16	3 7/16	1 3/8	6 11/16	1/2	15 1/16	13/16	13/16	13/16	13/16	5 3/16	13/8	1 5/16	1	1/2	1.28	
3/8 10	7,100	674518	60006	2 13/16	4 1/16	1 3/4	8 11/32	1 1/16	1 1/8	5/8	1 7/16	1 7/16	6 1/2	1 3/4	1 19/32	19/64	1 1/16	2.08		
1/2 13	12,000	674524	60007	3 5/8	4 3/4	2 1/4	10 9/16	7/8	1 11/16	1 3/8	1 7/8	1 7/8	8 9/32	2 3/16	1 21/32	13/8	7/8	4.12		
5/8-3/4 16/20	28,300	674530	60008	5 1/16	5 3/4	2 7/16	13 1/2	1 1/4	2 1/16	1 3/4	2 9/16	2 9/16	10 1/2	2 5/8	2 3/8	1 3/4	1 1/4	10.34		

**CM Clevlok Latchlok hook—  
proof tested**

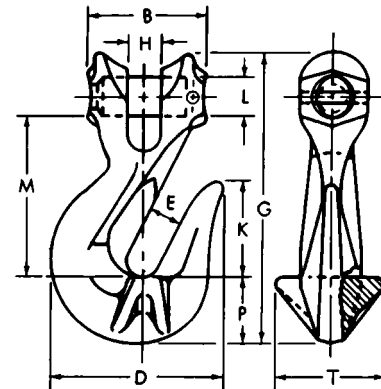
- Alloy steel, forged & heat treated
- Rated for grade 80 Herc-Alloy chain
- Join directly to chain. No need for coupling links
- Recessed push button release. Will not open accidentally, even when chain goes slack
- Smooth contour prevents hooks snagging



Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)																Weight each (lbs.)
				B	D	E	G	I	J	K	L	M	N	O	P	W				
9/32	3,500	674370	60000	1 23/64	3 7/16	1 5/8	5 9/32	15/16	13/16	2 1/64	1	3 49/64	13/8	1 15/16	1	3/8	1.5			
3/8	7,100	674372	60001	1 13/16	4 1/16	1 5/8	6 3/4	1 1/8	5/8	29/64	1 27/64	4 51/64	1 3/4	1 19/32	19/64	17/32	2.6			
1/2	12,000	674374	60002	2 3/16	4 3/4	2 1/16	8 9/16	1 11/16	1 3/8	5/8	1 43/64	6 5/64	2 3/16	2 21/32	13/8	2 1/32	5.7			
5/8	18,100	674379	60003	2 3/4	5 3/4	2 1/4	10 15/32	2 1/16	1 3/4	3/4	2 1/8	7 25/64	2 5/8	2 3/8	1 3/4	7/8	11.1			
3/4	28,300	674384	60004	3 1/8	5 3/4	2 1/4	10 7/8	2 1/16	1 3/4	7/8	2 19/32	7 7/16	2 5/8	2 3/8	1 3/4	1 1/16	11.7			

**CM Clevlok Cradle Grab hook—  
100% proof tested**

Combines CM's unique Cradle Grab design with a simple, dependable clevis device for do-it-yourself hook attachment. Replacement load pins and retainer pins available.

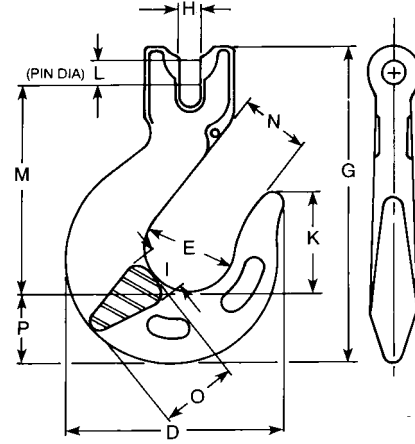


Chain size (in.) (mm)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)												Weight each (lbs.)
				B	D	E		G	H	K	L Pin Dia.	M	P	T		
9/32 7	3,500	659222	42108	1.250	1.781	.359	±.016	3.000	.328	.984	.357	1.625	.718	1.187	.46	
3/8 10	7,100	659225	42111	1.812	2.562	.468	±.031	4.078	.453	1.406	.507	2.109	1.062	1.750	1.23	
1/2 13	12,000	659228	42114	2.156	3.250	.594	±.031	5.266	.593	1.875	.625	2.875	1.281	2.125	2.40	
5/8 16	18,100	659229	42117	2.687	4.078	.750	±.031	6.531	.750	2.375	.750	3.562	1.593	2.500	4.17	
3/4 20	28,300	659430	42120	3.125	5.234	.875	±.031	9.083	.875	3.503	.906	5.500	1.867	2.875	9.56	

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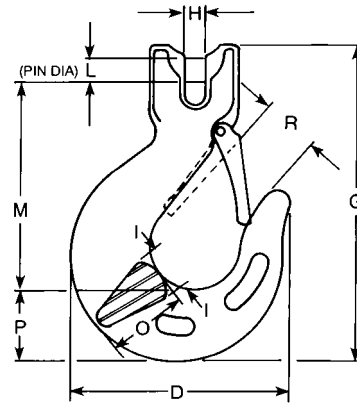
**CM Clevlok sling hook without latch\*\*—  
100% proof tested**



Chain size (in.) (mm)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)												Weight each (lbs.)
				D	E	G	H	I	K	L	M	N	O	P		
9/32 7	3,500	658338	45077	3.500	1.500	5.156	.328	.734	1.594	.357	3.437	1.187	1.203	1.051	.64	
3/8 10	7,100	658339	45100	4.343	1.875	6.672	.453	.953	2.187	.507	4.468	1.437	1.453	1.281	1.91	
1/2 13	12,000	658340	45070	5.500	2.250	8.000	.593	1.172	2.562	.625	5.265	1.781	1.938	1.656	4.33	
5/8 16	18,100	658341	45147	6.281	2.625	9.687	.750	1.438	2.281	.750	6.078	2.031	2.375	2.188	5.20	
3/4 20	28,300	658342	45177	7.827	3.000	11.688	.875	1.688	3.437	.906	7.344	2.500	2.828	2.563	11.40	

\*\*Latches available either as an option or in kit form. See below and page 27. User must determine whether latch is required on the hook. Replacement load pins and retainer pins available.

**CM Clevlok sling hook with latch—  
100% proof tested**



Chain size (in.) (mm)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)										Weight each (lbs.)
				D	G	H	I	L	M	O	P	R		
9/32 7	3,500	658318	45078	3.500	5.156	.328	.734	.357	3.437	1.203	1.051	1.062	.80	
3/8 10	7,100	658319	45101	4.343	6.672	.453	.953	.507	4.468	1.453	1.281	1.312	2.03	
1/2 13	12,000	658320	45071	5.500	8.000	.593	1.172	.625	5.265	1.938	1.656	1.562	4.50	
5/8 16	18,100	658321	45148	6.281	9.687	.750	1.438	.750	6.078	2.375	2.188	1.750	6.50	
3/4 20	28,300	658322	45178	7.827	11.688	.875	1.688	.906	7.344	2.828	2.563	2.187	11.80	

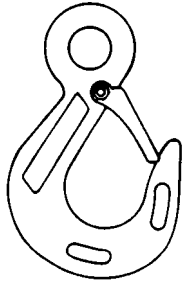
Replacement load pins and retainer pins available.

**\* ⚠ WARNING**

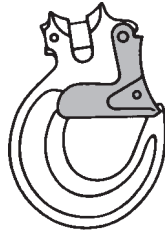
- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

**CM hook latch kits**

Kit includes all hardware for easy installation on CM eye and Clevlok sling hooks.



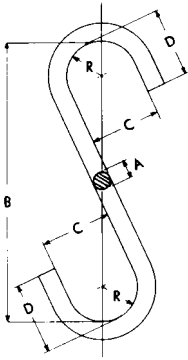
Current Style Latch



Old Style Latch

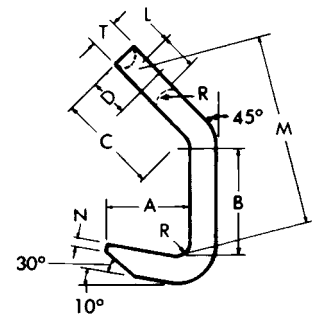
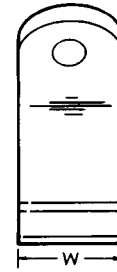
Chain size (in.)	Current style latch		Old style latch	
	Product code	UPC 43927-	Product code	UPC 43927-
7/32	—	—	595461	42087
9/32	595523	44919	595461	42087
3/8	595525	45260	595463	42088
1/2	595528	35990	595474	42095
5/8	595529	44975	595465	42090
3/4	595530	44984	595466	42091
7/8	595532	45081	595467	42092
1	595533	45082	595468	42093
1 1/4	595535	44988	595469	42094

**CM S hook—proof tested**



Size A (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)				Weight each (lbs.)
				B	C	D	R	
9/32	210	562228	23690	4 1/2	1 1/8	1 1/8	9/16	.15
3/8	410	562237	23691	6	1 1/2	1 1/2	3/4	.35
1/2	870	562250	23692	7 1/2	2	2	1	.82
5/8	1,120	562262	23693	9	2 1/2	2 1/2	1 1/4	1.6
3/4	1,730	562275	23694	10 1/2	3	3	1 1/2	2.6
7/8	2,370	562287	23695	12	3 1/2	3 1/2	1 3/4	4.2
1	2,920	562300	23696	13	4	4	2	6.0
1 5/32	3,150	562310	23697	15	4 1/2	4 1/2	2 1/4	9.3
1 1/4	4,450	562325	23698	16	5	5	2 1/2	11.7
1 3/8	6,100	562337	23699	17	5 1/2	5 1/2	2 3/4	15.4
1 1/2	6,250	562350	23700	18	6	6	3	19.5

**CM plate hook—proof tested**



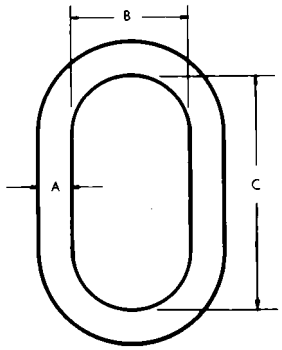
Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)										Weight each (lbs.)
				A	B	C	D	L	M	N	T	R	W	
9/32	3,600	462528	23675	2	1 3/4	2 1/2	1 5/16	1	3 11/16	1/8	5/8	5/16	2 1/2	2.8
3/8	7,050	462537	23676	2 5/8	3	4 5/16	1 3/16	1 1/8	6 3/8	3/16	3/4	3/8	2 3/4	5.7
1/2	11,400	462550	23677	3 1/2	4	4 3/8	1 1/2	1 1/2	7 3/8	1/4	1	1/2	3 1/2	13.0
5/8	17,800	462562	23678	4 3/8	5	5 7/16	1 7/8	1 7/8	9 1/4	5/16	1 1/4	5/8	5	26.5
3/4	25,600	462575	23679	5 3/16	6	6 1/2	2 3/8	2 1/4	10 7/8	3/8	1 1/2	3/4	5 3/4	42.0
7/8	34,900	462587	23680	6	7	7 5/8	2 1/2	2 5/8	13 1/16	7/16	1 3/4	1	6	65.0

**NOTE:** For mechanical assembled slings, next larger size Hammerlok coupling link is required in addition to regular size Hammerlok coupling link.

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**CM oblong master link—proof tested**

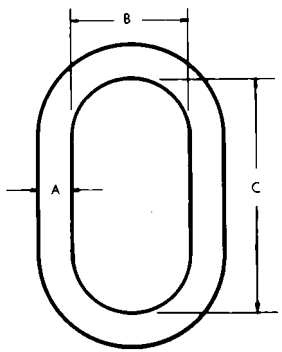


Link no.	Product code	UPC 43927-	Working load limit (lbs.)*†	Link size (inches)			Type & size of chain sling on which used				Weight each (lbs.)
				Diameter material A	Inside width B	Inside length C	Single type S & C	Double type D	Triple type T	Quad type Q	
HA40	554931	23327	3,600	13/32	1 1/2	3	7/32	7/32	—	—	.33
HA50	554932	23328	6,100	1/2	2 1/2	5	9/32	9/32	7/32	7/32	.8
HA75	554935	23329	12,300	3/4	2 3/4	5 1/2	3/8	3/8	9/32	9/32	2.1
HA100	554938	23330	20,800	1	3 1/2	7	1/2 or 5/8	1/2	3/8	3/8	4.6
HA125	554940	23331	31,300	1 1/4	4 3/8	8 3/4	3/4	5/8	1/2	1/2	9.2
HA150	554943	23333	49,000	1 1/2	5 1/4	10 1/2	7/8	3/4	5/8	5/8	15.7
HA175	554946	23335	73,500	1 3/4	6	12	1	7/8	3/4	3/4	24.5
HA200	554949	23337	88,900	2	7	14	1 1/4	1	7/8	7/8	37.3
HA225	554951	23339	125,200	2 1/4	8	16	—	1 1/4	1	1	54.0
HA275	554957	23342	187,800	2 3/4	9	16	—	—	1 1/4	1 1/4	84.8

†Working load limit of master link only. For sling WLL see pages 14-22.

**CM oblong master link—special sizes—proof tested**

• Heat treated

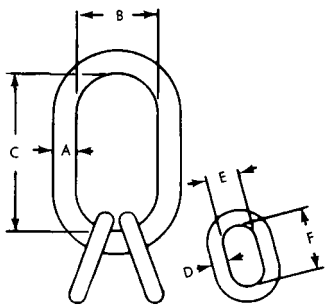


Diameter (in.)	Product code	UPC 43927-	Working load limit (lbs.)*†	Dimensions (inches)			Approx. weight each (lbs.)
				A	B	C	
1	554969	23345	18,200	1	4	8	5.3
1 1/4	554942	23332	22,800	1 1/4	6	12	12.1
1 1/2	554970	23346	42,900	1 1/2	6	12	17.6
1 1/2	554944	23334	36,700	1 1/2	7	14	20.1
1 3/4	554945	23359	63,000	1 3/4	7	14	27.9
2	554952	23340	77,800	2	8	16	41.9
2 1/2	554954	23341	147,300	2 1/2	8	16	67.0
3	554958	—	228,000	3	9	18	111.0
3 1/4	554959	—	262,200	3 1/4	10	20	144.0
3 1/2	554960	—	279,000	3 1/2	12	24	197.0

†Working load limit of master link only. For sling WLL see pages 14-22.

**CM oblong master link sub-assembly\*\*—proof tested**

for triple and quad branch chain slings



HA chain (in.)	Sub-assembly number	Product code	UPC 43927-	Oblong master link size (inches)			Master coupling link size (inches)			Weight (lbs.)
				A	B	C	D	E	F	
7/32	HA50-SA	554974	23575	1/2	2 1/2	5	11/32	5/8	1 1/8	1.0
9/32	HA75-SA	554975	23576	3/4	2 3/4	5 1/2	15/32	7/8	1 9/16	2.6
3/8	HA100-SA	554976	23577	1	3 1/2	7	21/32	1 1/4	2 1/4	6.1
1/2	HA125-SA	554977	23578	1 1/4	4 3/8	8 3/4	29/32	1 3/4	3 1/8	13.3
5/8	HA150-SA	554978	23579	1 1/2	5 1/4	10 1/2	15/32	2 1/4	4	24.3
3/4	HA175-SA	554979	23580	1 3/4	6	12	19/32	2 3/8	4 3/8	36.1
7/8	HA200-SA	554980	23581	2	7	14	117/32	2 3/4	5 1/4	57.4
1	HA225-SA	554981	23582	2 1/4	8	16	1 25/32	3	6	83.9
1 1/4	HA275-SA	554983	23583	2 3/4	9	16	2 1/32	3 1/2	7	129.7

\*\*Consisting of oblong master link and two welded master coupling links.

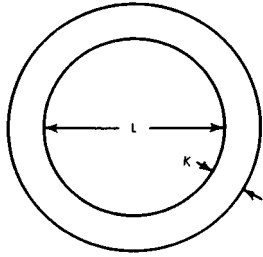
**\*WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

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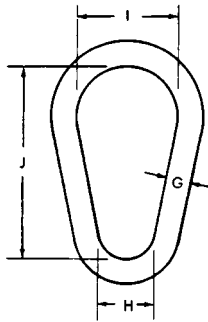
CM master ring—proof tested



Product code	UPC 43927-	Working load limit (lbs.)*†	Ring size (inches)		Type & size of chain sling on which used				Weight each (lbs.)
			Diameter material K	Inside dia. of ring L	Single type S & C	Double type D	Triple type T	Quad type Q	
554611	23494	3,500	1/2	2 1/2	9/32	—	—	—	.5
554613	23495	6,100	5/8	3	—	9/32	—	—	1.0
554615	23496	9,100	3/4	4	3/8	—	9/32	9/32	1.8
554617	23497	12,300	7/8	4	—	3/8	—	—	2.6
554619	23499	18,400	1	4	1/2	—	3/8	3/8	3.4
554623	23502	20,800	1 1/4	5	5/8 or 3/4	1/2	—	—	6.9
554627	23504	31,300	1 1/2	6	7/8	5/8	1/2	1/2	11.7
554630	23506	49,000	1 3/4	7	1	3/4	5/8	5/8	18.6
554635	23509	73,500	2	8	—	7/8	3/4	3/4	27.9
554636	23510	88,900	2 1/4	9	1 1/4	1	7/8	7/8	39.9

†Working load limit of master link only. For sling WLL see pages 14-22.

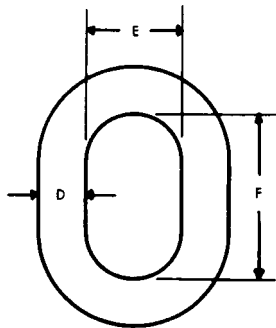
CM pear-shaped master link—proof tested



Link no.	Working load limit (lbs.)*†	Product code	UPC 43927-	Link size (inches)			Type & size of chain sling on which used		Weight each (lbs.)	
				Diameter material G	Inside width H	Inside length J	Single type S&C	Double type D		
HA51	6,100	554702	23403	1/2	1 1/4	2 1/2	5 5/16	9/32	9/32	.8
HA79	12,300	554706	23405	3/4	2	2 3/4	5 5/8	3/8	3/8	2.1
HA103	20,800	554710	23408	1	2 5/8	3 1/2	7 1/4	1/2 or 5/8	1/2	4.6
HA129	31,300	554714	23410	1 1/4	3 1/4	4 5/8	8 3/4	3/4	5/8	9.2
HA153	49,000	554719	23413	1 1/2	3 7/8	5 1/4	10 1/2	7/8	3/4	15.3
HA179	59,200	554723	23414	1 3/4	4 1/2	6	12	1	7/8	23.9
HA201	82,600	554726	23415	2	3 1/2	7	14	1 1/4	1	35.9
HA229	125,200	554731	23416	2 1/4	6	8	16	—	1 1/4	52.8

†Working load limit of master link only. For sling WLL see pages 14-22.

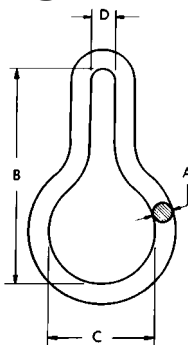
CM welded coupling link—proof tested



Chain size (in.)	Link size (inches)		
	Diameter material D	Inside width E	Inside length F
9/32	11/32	5/8	1 1/8
3/8	15/32	7/8	1 9/16
1/2	21/32	1 1/4	2 1/4
5/8	25/32	1 1/2	2 5/8
3/4	29/32	1 3/4	3 1/8
7/8	1 1/32	2	3 1/2
1	1 5/32	2 1/4	4
1 1/8**	1 9/32	2 3/8	4 3/8
1 1/4	1 17/32	2 3/4	5 1/4
1 1/2**	1 25/32	3	6
—	1 25/32	3 1/2	7
—	2 1/32	3 1/2	7

\*\*Non-stock item.

CM grab link—proof tested



Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Link size (inches)				Weight each (lbs.)
				A	B	C	D	
9/32	3,500	554320	23782	1/2	5 1/2	2 1/2	37/64	.79
3/8	7,100	554326	23783	3/4	6 1/16	2 3/4	5/8	2.1
1/2	12,000	554332	23785	1	7 5/8	3 1/2	3/4	4.6
5/8	18,100	554337	23786	1 1/4	9 1/4	4 3/8	1	9.2
3/4	28,300	554342	23787	1 3/8	11 1/4	6	1 1/8	14.3
7/8	34,200	554347	20291	1 1/2	11 3/4	5 1/4	1 3/8	16.8
1	47,700	554352	23788	1 3/4	13 3/4	7	1 1/2	26.7
1 1/4	72,300	554362	20292	2 1/4	17 1/2	9	2 1/4	57.2

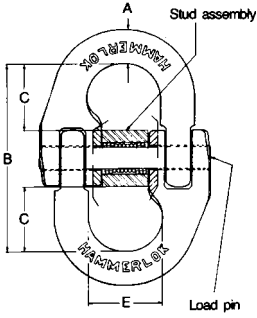
NOTE: Although CM can supply these types of master links and rings, the oblong link is recommended for general use.

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### CM Hammerlok coupling link—proof tested

Dependable and easy to use for fast assembly on the job, for attaching chain to master links and eye type hooks and for installing new body chain in old slings. C.V.S.A. approved.

Dimensions (inches)

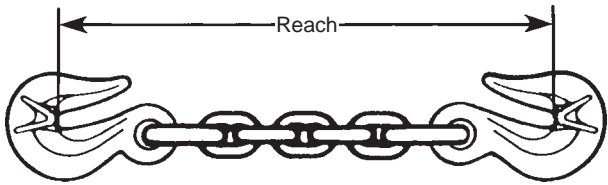


Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)				Max. width	Diameter hole to accept male leg	Weight each (lbs.)
				A	B	C	E†			
7/32	2,100	664220	23087	1/4	1 13/32	31/64	13/32	1 5/16	1/2	.12
9/32	3,500	664228	23097	5/16	1 13/16	5/8	1/2	1 11/16	35/64	.23
3/8	7,100	664241	23107	1/2	2 13/32	53/64	3/4	2 7/32	47/64	.65
1/2	12,000	664250	23118	11/16	3 3/8	17/32	1	3 1/8	59/64	1.5
5/8	18,100	664262	23130	13/16	4 1/16	1 1/2	1 1/4	3 11/16	1 1/16	2.6
3/4	28,300	664275	23142	15/16	4 25/32	1 51/64	1 1/2	4 5/16	1 1/4	3.8
7/8	34,200	664287	23152	1 3/64	5 1/8	1 29/32	1 3/4	5 5/16	1 11/32	6.3
1	47,700	664300	23163	1 1/4	5 3/4	2 3/16	2	6 3/16	1 9/16	9.3
1 1/4	72,300	664325	23173	1 17/32	6 13/16	2 5/8	2 1/4	7 3/4	2	17.3

†Diameter of stock of largest master link intended to be used with Hammerlok.

### CM chain shortener

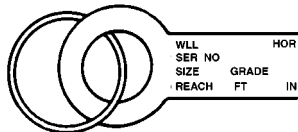
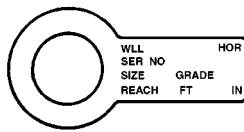
Standard arrangement consists of five links of body chain, two coupling links and two grab hooks as illustrated.



Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Reach (in.)
9/32	3,500	604261	32731	11 1/4
3/8	7,100	604262	32741	15 3/8
1/2	12,000	604263	32746	19 3/8
5/8	18,100	604264	32751	23 3/8
3/4	28,300	604265	32756	28
7/8	34,200	604266	32761	33 1/4
1	47,700	604267	32766	37 1/2
1 1/4	72,300	604268	32771	47 3/4

### CM identification/serial number tag

- OSHA required
- Zinc plated
- Suitable for all sizes of slings



Description	Product code	UPC 43927-
Without ring	457106	24188
With 2" Key ring	557193	35979

### \* ⚠ WARNING

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

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### CM Herc-Alloy 800 chain sling assembly

American National Standard ANSI B30.9, the National Association of Chain Manufacturers, and the Occupational Safety & Health Administration recommend only the use of alloy steel chain for overhead lifting, i.e. for sling chain. Slings may be constructed by the user using CM grades 63 or 80 chain, Columbus McKinnon alloy attachments and Columbus McKinnon Hammerlok coupling links. Columbus McKinnon uses grade 80 chain and alloy steel welded coupling links instead of Hammerlok coupling links for construction of welded slings. Further, ANSI B30.9 requires that mechanically assembled slings be comprised entirely of proof tested components. For ease of compliance, all Columbus McKinnon alloy hooks, master links, master link sub-assemblies and Hammerlok coupling links (pages 23 through 30) are proof tested at the time of manufacture. Since alloy chain is also proof tested, a mechanically assembled sling using CM components is made up entirely of proof tested components.

CM makes it easy for you to assemble the right chain sling for every job quickly, easily and cost effectively, right in your own plant. Because we have incorporated many advanced engineering and design features, the custom chain slings you assemble using Herc-Alloy 800 chain and attachments are just as strong and just as dependable as factory assembled slings, and OSHA approved.



**CM Hammerlok** coupling links are used for attaching chain to master links and eye type hooks, or for installing a new branch of body chain to old slings. Made from larger size stock than the chain they are used with, they provide greater inter-link wearing surface. Every link is marked with the size of Herc-Alloy 800 chain it accommodates. Load pin and stud can be assembled quickly and easily with just a hammer.



**CM Clevlok** hooks feature a simple clevis device; single retaining pin is easily inserted or removed with standard tools. The short clevis slot helps eliminate pin bending. Clevlok hooks are lighter and less bulky than comparable assemblies, and easier to remove from beneath loads. Available with either engineered Cradle Grab or sling hook bodies; see pages 25 and 26 for details and specifications. For assembly instructions, see page 32.

#### SELECTING THE CORRECT CHAIN SLING.

1. Determine the weight and configuration of the load to be lifted.
2. Determine the type of chain sling required (see page 14) according to No. 1, above.
3. Using the working load limits\* on page 14, determine the size of body chain required.
4. Consult pages 23 through 30 to determine the matched components and accessories needed to complete the sling.
5. Determine the length of chain needed, using the chart below titled "Lengths required for slings of 5 ft. reach." This is a variable, affected by chain size and attachments used.

\*The working load limit is the maximum load in pounds which should ever be applied to chain, even when chain is new, and when load is uniformly applied in direct tension to a straight length of chain.

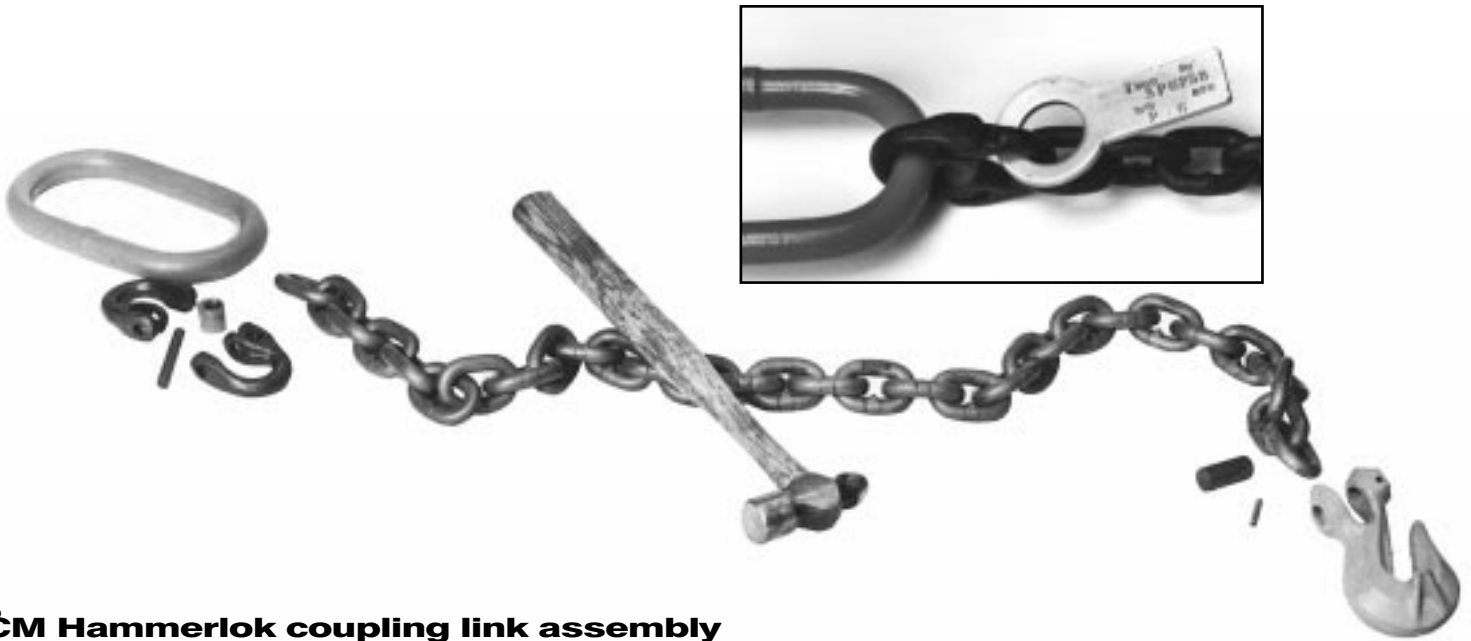
### CM Herc-Alloy 800 chain—lengths required for slings of 5 ft. reach

Chain size (in.)		7/32	9/32	3/8	1/2	5/8	3/4	7/8	1	1 1/4	
SINGLE	Eye type	SOS	4' 3"	4' 0"	3' 9"	3' 5"	3' 2"	2' 10"	2' 6"	2' 3"	1' 9"
		SOG	4' 5"	4' 1"	3' 11"	3' 6"	3' 4"	3' 0"	2' 9"	2' 4"	1' 10"
		SOF	—	3' 11"	3' 8"	3' 3"	3' 1"	2' 8"	2' 5"	2' 1"	1' 7"
		CO (SOO)	4' 3"	3' 10"	3' 8"	3' 3"	3' 2"	2' 9"	2' 5"	2' 0"	1' 6"
		SGG	4' 6"	4' 4"	4' 1"	3' 9"	3' 6"	3' 3"	3' 1"	2' 8"	2' 1"
	Clevlok hook	SOS	—	4' 0"	3' 11"	3' 8"	3' 7"	3' 3"	—	—	—
		SOG	—	4' 2"	4' 1"	3' 11"	3' 9"	3' 6"	—	—	—
		DOS	4' 3"	4' 0"	3' 9"	3' 5"	3' 1"	2' 8"	2' 5"	2' 1"	1' 7"
		DOG	4' 5"	4' 1"	3' 11"	3' 6"	3' 2"	2' 10"	2' 7"	2' 2"	1' 8"
		DOF	—	3' 11"	3' 8"	3' 3"	2' 11"	2' 7"	2' 3"	1' 11"	1' 5"
DOUBLE	Eye type	DOL	—	3' 10"	3' 7"	3' 2"	2' 9"	2' 6"	—	—	
		SINGLE ADJ. LOOP	4' 8"	4' 5"	4' 4"	4' 2"	4' 1"	3' 11"	3' 8"	3' 6"	3' 3"
		SINGLE BASKET	9' 5"	8' 11"	8' 9"	8' 5"	8' 0"	7' 9"	7' 2"	6' 10"	6' 3"
	Clevlok hook	DOS	—	4' 0"	3' 11"	3' 8"	3' 5"	3' 1"	—	—	—
		DOG	—	4' 2"	4' 1"	3' 11"	3' 8"	3' 4"	—	—	—
		TOS-QOS	4' 0"	3' 10"	3' 5"	3' 0"	2' 7"	2' 3"	1' 10"	1' 5"	1' 0"
TRIPLE & QUAD	Eye type	TOG-QOG	4' 4"	3' 11"	3' 7"	3' 1"	2' 9"	2' 5"	2' 0"	1' 6"	1' 1"
		TOF-QOF	—	3' 9"	3' 4"	2' 10"	2' 5"	2' 1"	1' 8"	1' 3"	0' 10"
		TOL-QOL	—	3' 8"	3' 3"	2' 9"	2' 3"	2' 0"	—	—	—
		DOUBLE BASKET	8' 10"	8' 7"	8' 2"	7' 7"	7' 0"	6' 7"	5' 11"	5' 6"	5' 1"
	Clevlok hook	DOUBLE ADJ. LOOP	4' 5"	4' 3"	4' 1"	3' 9"	3' 5"	3' 3"	3' 0"	2' 8"	2' 6"
		TOS-QOS	—	3' 11"	3' 8"	3' 4"	2' 11"	2' 1"	—	—	—
		TOG-QOG	—	4' 1"	3' 10"	3' 6"	3' 2"	2' 6"	—	—	—



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**CM Hammerlok coupling link assembly**



1. Bring the two Hammerlok coupling link body halves together as shown.

2. Place the stud assembly and the special load pin made from hardened alloy steel in place as shown.

3. Drive the load pin in until the end of the pin is flush with the surface of the body forging.

**CM Clevlok hook assembly**



4. Place chain link in clevis slot.

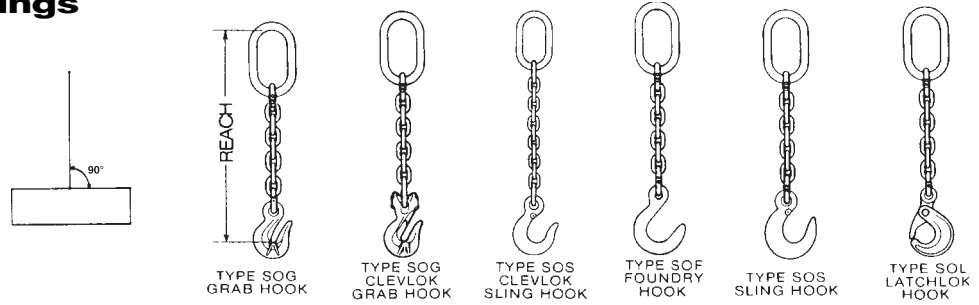
5. Drop load pin into pinhole of the hook.

6. Drive single retaining pin until it is flush with the surface of the body forging.

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**CM single chain slings**

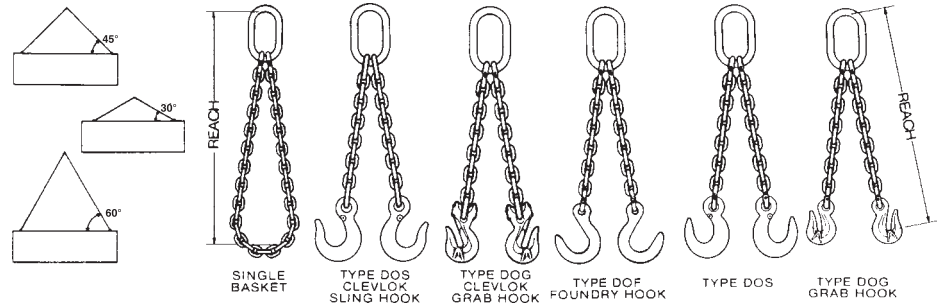


Product code

Chain size (in.)	Working load limit (lbs.)*	Oblong master link	Hammerlok coupling link	Hooks					
				Clevlok Cradle Grab	Clevlok sling**	Latchlok	Cradle Grab (eye)	Sling (eye)**	Foundry (eye)
7/32	2,100	554931	664220	—	—	—	559318	458544	—
9/32	3,500	554932	664228	659222	658338	674514	559325	458722	474498
3/8	7,100	554935	664241	659225	658339	674518	559337	458725	474499
1/2	12,000	554938	664250	659228	658340	674524	559350	458728	474500
5/8	18,100	554938	664262	659229	658341	674530	559362	458729	474501
3/4	28,300	554940	664275	659430	658342	674530	559575	458730	474502
7/8	34,200	554943	664287	—	—	—	559387	458732	474503
1	47,700	554946	664300	—	—	—	559100	458733	474504
1 1/4	72,300	554949	664325	—	—	—	559124	458735	474505

\*\*Latch is available as an option. See page 26.

**CM double chain slings**



Product code

Chain size (in.)	Working load limit (lbs.)*			Oblong master link	Hammerlok coupling link	Hooks					
	60°	45°	30°			Clevlok Cradle Grab	Clevlok sling**	Latchlok	Cradle Grab (eye)	Sling (eye)**	Foundry (eye)
7/32	3,600	3,000	2,100	554931	664220	—	—	—	559318	458544	—
9/32	6,100	4,900	3,500	554932	664228	659222	658338	674514	559325	458722	474498
3/8	12,300	10,000	7,100	554935	664241	659225	658339	674518	559337	458725	474499
1/2	20,800	17,000	12,000	554938	664250	659228	658340	674524	559350	458728	474500
5/8	31,300	25,600	18,100	554940	664262	659229	658341	674530	559362	458729	474501
3/4	49,000	40,000	28,300	554943	664275	659430	658342	674530	559575	458730	474502
7/8	59,200	48,400	34,200	554946	664287	—	—	—	559387	458732	474503
1	82,600	67,400	47,700	554949	664300	—	—	—	559100	458733	474504
1 1/4	125,200	102,200	72,300	554951	664325	—	—	—	559124	458735	474505

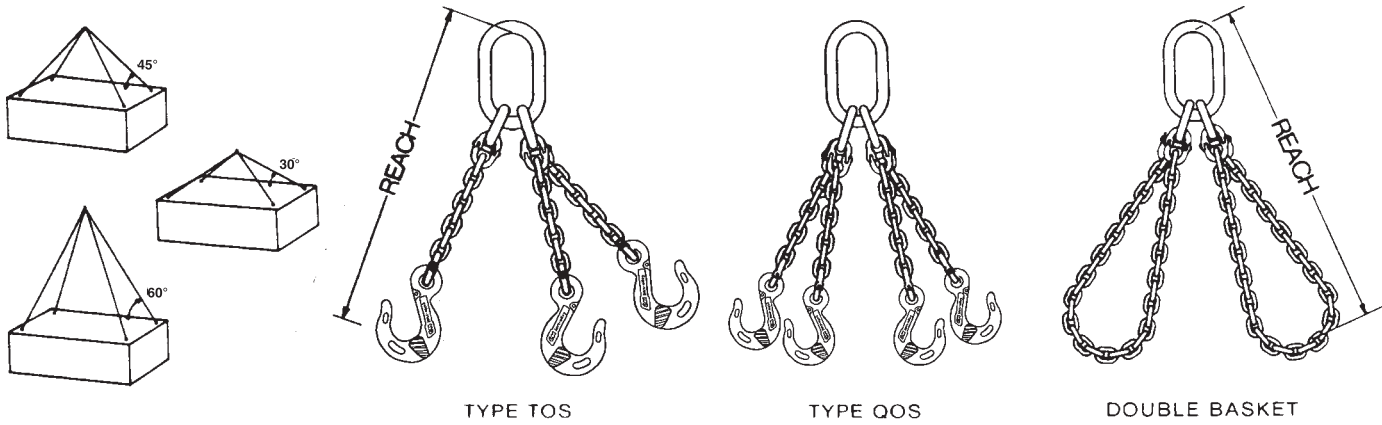
\*\*Latch is available as an option. See page 26.

**\*▲WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

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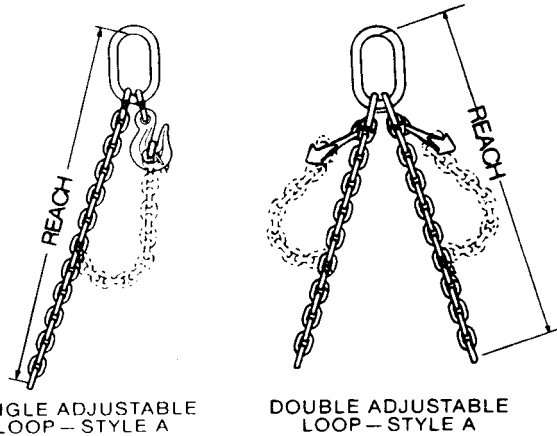
CM triple & quad chain slings



Chain size (in.)	Working load limit (lbs.)*			Product code								
	60°	45°	30°	Oblong master link sub-assembly	Hammerlok coupling link	Hooks					Foundry (eye)	
						Clevlok Cradle Grab	Clevlok sling**	Latchlok	Cradle Grab (eye)	Sling (eye)**		
7/32	5,450	4,450	3,150	554974	664220	—	—	—	559318	458544	—	
9/32	9,100	7,400	5,200	554975	664228	659222	658338	674514	559325	458722	474498	
3/8	18,400	15,100	10,600	554976	664241	659225	658339	674518	559337	458725	474499	
1/2	31,200	25,500	18,000	554977	664250	659228	658340	674524	559350	458728	474500	
5/8	47,000	38,400	27,100	554978	664262	659229	658341	674530	559362	458729	474501	
3/4	73,500	60,000	42,400	554979	664275	659430	658342	674530	559575	458730	474502	
7/8	88,900	72,500	51,300	554980	664287	—	—	—	559387	458732	474503	
1	123,900	101,200	71,500	554981	664300	—	—	—	559100	458733	474504	
1 1/4	187,800	153,400	108,400	554983	664325	—	—	—	559124	458735	474505	

\*\*Latch is available as an option. See page 26.

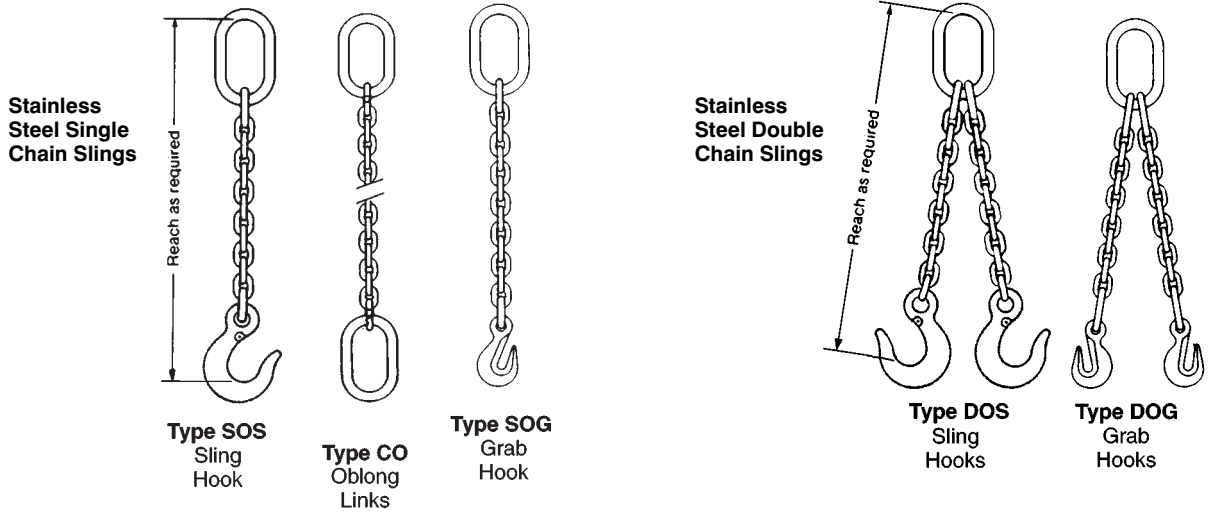
CM adjustable single & double loop chain slings



Chain size (in.)	Single Working load limit (lbs.)* 60°	Product code				Double Working load limit (lbs.)* 60°	Product code			
		Oblong master link	Hammerlok coupling link	Hooks			Oblong master link sub-assembly	Hammerlok coupling link	Hooks	
				Clevlok Cradle Grab	Cradle Grab (eye)				Clevlok Cradle Grab	Cradle Grab (eye)
7/32	3,600	554931	664220	—	559318	5,450	554974	664221	—	559318
9/32	6,100	554932	664228	659222	559325	9,100	554975	664228	659222	559325
3/8	12,300	554935	664241	659225	559337	18,400	554976	664241	659225	559337
1/2	20,800	554938	664250	659228	559350	31,200	554977	664250	659228	559350
5/8	31,300	554940	664262	659229	559362	47,000	554978	664262	659229	559362
3/4	49,000	554943	664275	659430	559575	73,500	554979	664275	659430	559575
7/8	59,200	554946	664287	—	559387	88,900	554980	664287	—	559387
1	82,600	554949	664300	—	559100	123,900	554981	664300	—	559100
1 1/4	125,200	554951	664325	—	559124	187,800	554983	664325	—	559124

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**Type 347 stainless steel chain and attachments**



**NOTE:** Although the only chain recommended by NACM, ANSI and OSHA for overhead lifting is Alloy Chain (Grade 63 or Grade 80), there are occasions when use of Type 347 Stainless Steel Alloy chain with a lower working load limit will provide superior longevity in service. Type 347 Stainless Steel Chain is the preferred lifting chain in some corrosive and elevated temperature environments where the effects of corrosion or extreme heat can have an effect on Grade 63 or Grade 80 chain.

Type 347 chain is available in running lengths as well as single, double, triple & quad branch sling chains. Sling hooks and grab hooks are available. Chain is embossed SSTL.

**Corrosion Resistance**

- Good – Foodstuffs, sterilizing solutions, most organic chemicals, many inorganic chemicals, dyestuffs, nitric acid, fresh and salt water, weak sulphuric acid.
- Poor – Strong sulphuric acid, hydrochloric acid, chloride salts, halogens (fluorine, bromine, iodine, and chlorine).

**Uses:**

- Textile dye vats.
- Non-magnetic applications.
- High temperature applications.
- Nitric acid pickling baths.
- Salt or fresh water.
- Foodstuff handling.

**High temperature properties**

Retains considerable strength at temperatures up to 1600°F. The maximum recommended temperature for continuous service is 1000°F and for intermittent service 1600°F.

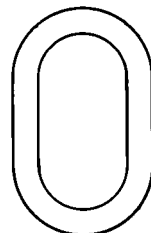
**Dimensions and Weights**

Chain size (in.)	Product code	UPC 43927-	Material size (in.)	Link Dimensions (inches)		Links per foot	Weight 100 feet (lbs.)
				Inside length	Inside width		
9/32	646028	32059	.281	.8596	.364	14	76
3/8	646037	32061	.375	1.0900	.487	11	137
1/2	646050	32063	.500	1.4040	.675	8 1/2	252

**NOTE:** Dimensions and Weights are approximate.

**Stainless steel oblong master links**

Size	Product code	UPC 43927-
1/2 x 2 1/2 x 5	555550	32054
3/4 x 2 3/4 x 5 1/2	555575	32055
1 x 3 1/2 x 7	555600	32056



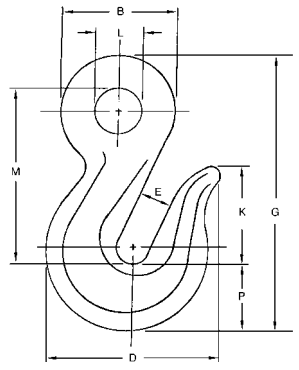
**\*▲WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

1

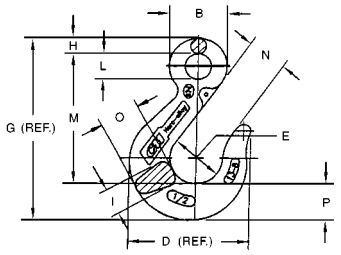
**Stainless steel hooks — grab**

Chain size (in.)	Product code	UPC 43927-	Dimensions (inches)								Weight each (lbs.)
			B	D	E	G	K	L	M	P	
9/32	450601	41515	19/32	2	3/8	37/32	29/32	17/32	21/32	25/32	.44
3/8	450602	41525	13/4	2 11/16	1/2	4 11/32	1 5/16	25/32	2 3/4	1 3/32	1.0
1/2	450603	41538	2 3/16	3 1/4	2 1/32	5 9/16	1 29/32	15/16	3 35/64	1 13/32	2.31



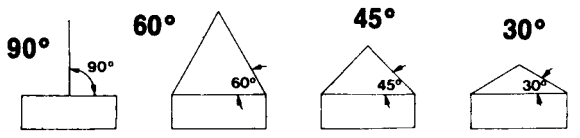
**Stainless steel hooks — sling**

Chain size (in.)	Product code	UPC 43927-	Dimensions (inches)											Weight each (lbs.)
			B	D	E	G	H	I	L	M	N	O	P	
9/32	450620	42017	1 5/8	3 5/16	1 3/8	4 19/64	3/8	25/32	3/4	3 1/16	1 1/4	1	55/64	.66
3/8	450626	45491	2 1/16	4 11/32	1 7/8	6 41/64	9/16	6 1/64	15/16	4 25/32	17/16	1 29/64	1 9/32	1.9
1/2	450627	44901	2 5/8	5 1/2	2 1/4	8 5/32	3/4	1 11/64	1 1/8	5 11/16	1 25/32	1 15/16	1 21/32	4.5



**Stainless steel chain size, heat conditions & working load limits**

Chain size (in.)	Temp. †	Working load limits (lbs.)*			
		Single	Double		
		90°	60°	45°	30°
9/32	Room	2,000	3,460	2,830	2,000
3/8	Room	3,400	5,880	4,800	3,400
1/2	Room	6,500	11,250	9,200	6,500
9/32	800°F	1,600	2,770	2,260	1,600
3/8	800°F	2,720	4,700	3,840	2,720
1/2	800°F	5,200	9,000	7,350	5,200
9/32	1000°F	1,515	2,620	2,140	1,515
3/8	1000°F	2,575	4,450	3,640	2,575
1/2	1000°F	4,925	8,530	6,960	4,925
9/32	1200°F	1,345	2,330	1,900	1,345
3/8	1200°F	2,290	3,960	3,240	2,290
1/2	1200°F	4,380	7,580	6,190	4,380
9/32	1400°F	965	1,670	1,360	965
3/8	1400°F	1,645	2,850	2,320	1,645
1/2	1400°F	3,145	5,450	4,450	3,145
9/32	1600°F	460	790	650	460
3/8	1600°F	785	1,350	1,110	785
1/2	1600°F	1,505	2,600	2,130	1,505



†For long-term exposure at temperatures over 1000°F., creep strength or stress-rupture strength may determine the safe load limits.  
 For triple branch and quad branch working load limits multiply the double branch values by 1 1/2.

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**\* ⚠ WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

## CM carbon chain

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Chain specifications



	Chain size		Working load limit (lbs.)*	Nominal inside link dimensions (inches)		Weight per 100 ft. (lbs.)
	Inches	Decimal		Length	Width	
<b>CM GRADE 30 PROOF COIL CHAIN</b>	3/16	.218	800	.95	.40	38
	1/4	.276	1,300	1.00	.47	66
	5/16	.327	1,900	1.10	.50	98
	3/8	.390	2,650	1.23	.62	144
	7/16	.468	3,700	1.37	.75	210
	1/2	.531	4,500	1.50	.81	278
	5/8	.656	6,900	1.87	1.00	422
	3/4	.787	10,600	2.12	1.12	628
<b>CM GRADE 43 HIGH TEST CHAIN</b>	1	1.031	17,900	2.75	1.50	1,069
	1/4	.281	2,600	1.00	.47	71
	5/16	.327	3,900	1.10	.50	98
	3/8	.390	5,400	1.23	.62	144
	7/16	.468	7,200	1.37	.75	210
	1/2	.531	9,200	1.50	.81	278
	5/8	.656	13,000	1.87	1.00	422
	3/4	.781	20,200	2.12	1.12	606
<b>CM GRADE 70 TRANSPORT (BINDING) CHAIN</b>	7/8	.875	24,500	2.25	1.14	776
	1	1.000	34,100	2.75	1.50	1,050
	1/4	.281	3,150	.84	.47	74
	5/16	.327	4,700	.98	.46	100
	3/8	.406	6,600	1.14	.54	156
	7/16	.468	8,750	1.33	.62	204
	1/2	.531	11,300	1.43	.72	259

Dimensions and weights are approximate and subject to variations.

CM Welded graded chain

Welded graded chain is an industrial grade chain used extensively in rigging, towing and overhead lifting applications. CM graded chains are manufactured in accordance with the NACM Specification for chain, ASTM Standard A391 and ASTM Standard A413. The standardized grade designations are 30, 43 and 70 for carbon steel chain, and 63 and 80 for alloy steel chain. The grade number relates to the strength

level of the chain, with the grade number increasing as the strength of the chain increases.

Only Herc-Alloy 800 and Herc-Alloy 63 chain is designed for overhead lifting. The other grade designated chains are not made from alloy steel and should not be used for overhead lifting.

**\* ⚠ WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

**CM grade 30 proof coil chain**

Embossed: G30 and date codes  
packed in continuous lengths in half  
drum, standard drum and large drum.



Chain size (in.)	Standard drum pack (600 lbs.)						Feet per container Std. drum	Max. weight per 100 ft. (lbs.)
	Self colored		Zinc plated		Hot galvanized‡			
	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-		
3/16	671040	28059	671440	30004	671340	29366	850	38
1/4	671041	28173	671441	30080	671341	29404	800	66
5/16	671042	28457	671442	30188	671342	29454	550	98
3/8	671043	28690	671443	30220	671343	29519	400	144
7/16	671044	20068	—	—	—	—	300	210
1/2	671045	28936	671445	30363	671345	29678	200	278
5/8	671046	29179	—	—	671346	29705	150	422
3/4	671047	29277	—	—	671347	29802	100	628
1	671049	20247	—	—	—	—	60	1,069



**Pailpak packed in plastic pails**

**Display reels**

Chain size (in.)	Self colored				Zinc plated				Hot galvanized‡				Zinc plated				Hot galvanized			
	Product code		UPC 43927-		Product code		UPC 43927-		Product code		UPC 43927-		Product code		UPC 43927-		Product code		UPC 43927-	
	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-
3/16	671010	28058	671410	71410	671310	29375	250	95	671430	71430	100	38	671330	29376	100	38				
1/4	671011	28172	671411	71411	671311	29402	141	93	671431	71431	75	48	671331	29403	75	50				
5/16	671012	28456	671412	71412	671312	29452	92	93	671432	71432	55	55	671332	29453	55	69				
3/8	671013	28689	671413	71413	671313	29517	63	94	671433	71433	35	51	671333	29518	35	58				
1/2	671015	28935	671415	30362	671315	29677	40	114	—	—	—	—	—	—	—	—				

‡Weight for hot galvanized: Add 5% for sizes under 1/2". Add 2% for sizes over 1/2".

**Half drum pack (300 lbs.)**

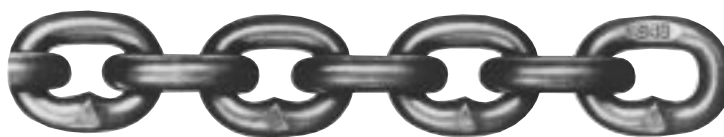
Chain size (in.)	Self colored		Zinc plated		Hot galvanized		Feet per container Large drum	Mfg. weight per 100 ft. (lbs.)
	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-		
	3/16	671094	28061	671494	30007	671394		
1/4	671091	28175	671491	30081	671391	29406	400	66
5/16	671092	28459	671492	30190	671392	29456	275	98
3/8	671093	28692	671493	30222	671393	29521	200	144
1/2	—	—	—	—	671395	29680	100	278

**Large drum pack (1000 lbs.)**

Chain size (in.)	Self colored		Zinc plated		Hot galvanized		Feet per container Large drum	Mfg. weight per 100 ft. (lbs.)
	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-		
	3/16	671060	28060	671480	30006	671360		
1/4	671061	28174	671481	30085	671361	29405	1400	66
5/16	671062	28458	671482	30191	671362	29455	900	98
3/8	671063	28691	671483	30221	671363	29520	650	144
1/2	671065	28937	—	—	671365	29679	350	278
5/8	671066	29180	—	—	671366	29706	250	422
3/4	671067	29278	—	—	671367	29803	170	628
1	671069	29299	—	—	671369	29902	100	1,069

### CM grade 43 high test chain

Embossed: G43 and date code packed in continuous lengths in half drum, standard and large drums.



#### Drum pack

Chain size (in.)	Bright finish						Hot galvanized‡						Max. weight per 100 ft. (lbs.)	
	Half drum		Std. drum		Large drum		Half drum		Std. drum		Feet per container			
	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-	Half drum	Std. drum		Large drum
1/4	678131	24637	678141	24638	678161	24639	678331	25120	678341	24640	400	800	1,400	71
5/16	678132	24810	678142	24811	678162	24812	678332	27116	678342	24813	275	550	900	98
3/8	678133	25111	678143	25112	678163	25113	678333	25114	678343	25115	200	400	650	144
7/16	678134	20070	678144	25325	—	—	—	—	—	—	150	300	—	210
1/2	678135	25414	678145	25415	678165	25416	678335	27441	678345	25417	100	200	350	278
5/8	678136	25579	678146	25580	678166	25581	678336	25582	678346	22913	75	150	250	422
3/4	678137	26715	678147	26716	678167	26717	678337	25583	678347	26718	50	100	170	606
7/8	678138	23032	678148	—	—	—	—	—	—	—	40	80	—	776
1	678139	23034	678149	20552	—	—	—	—	—	—	30	60	—	1,050

#### Pailpak packed in plastic pails

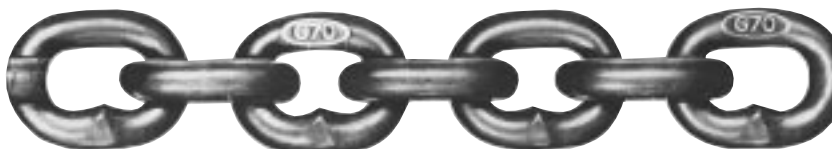
#### Display reels

Chain size (in.)	Self colored		Zinc plated		Hot galvanized‡		Feet per pail	Approx. gross weight (lbs.)	Zinc plated		Feet per reel	Approx. weight per reel (lbs.)
	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-			Product code	UPC 43927-		
1/4	678111	24636	678411	24642	678311	27990	130	92	678421	24643	75	53
5/16	678112	24809	678412	24815	678312	28468	90	88	678422	24816	70	69
3/8	678113	25110	678413	25117	678313	28676	64	92	678423	25118	45	65

‡Weight for hot galvanized: Add 5% for sizes under 1/2". Add 2% for sizes over 1/2".

### CM grade 70 transport (binding) chain

Embossed: G70 (gold finish) and trace code packed in continuous lengths in half drum, standard and large drums.



#### Drum pack

#### Pailpak packed in plastic pails

Chain size (in.)	Half drum		Std. drum		Large drum		Feet per container			Weight per 100 ft. (lbs.)	Pailpak packed in plastic pails			
	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-	Half drum	Std. drum	Large drum		Product code	UPC 43927-	Feet per pail (approx.)	Gross weight (approx.)
1/4	678521	32636	678531	32637	678541	32638	400	800	1,400	74	678517	21877	130	96
5/16	678522	32798	678532	32799	678542	32800	275	550	900	100	678518	21878	90	91
3/8	678523	32834	678533	32835	678543	32837	200	400	650	156	678519	21879	64	101
7/16	678524	32905	678534	32906	678544	32907	150	300	450	204	—	—	—	—
1/2	678525	33029	678535	33030	678545	33031	100	200	350	259	—	—	—	—

### Log chains/grade 30 proof coil chain with or without swivel



Size	Working load limit (lbs.)*	With swivel		Without swivel		Approx. weight (lbs.)
		Product code	UPC 43927-	Product code	UPC 43927-	
5/16" x 14'	1,900	609308	20747	609350	20748	16
3/8" x 14'	2,650	609314	20746	609356	20749	23

Description: Self colored. Fitted with grab hook at one end and slip hook at the other end. Packed in carton.

## \*WARNING

#### TO AVOID INJURY:

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.



**CM binder chain assemblies**

Used by truckers, contractors, oil field crews, highway crews and farmers.



Eye grab hook



Clevis grab hook

**Eye grab hook**

Size (in.)	Grade 43			Grade 70		
	Product code	UPC 43927-	Working load limit (lbs.)*	Product code	UPC 43927-	Working load limit (lbs.)*
5/16 x 14	638228**	38228	3,900	638259**	33301	4,700
5/16 x 16	638229**	33855	3,900	638264**	33303	4,700
5/16 x 18	638230**	33856	3,900	—	—	—
5/16 x 20	638231**	27117	3,900	638224	33300	4,700
5/16 x 25	—	—	—	638306**	33314	4,700
3/8 x 12	638227	33857	5,400	—	—	—
3/8 x 14	638239	27448	5,400	—	—	—
3/8 x 16	638240	27449	5,400	—	—	—
3/8 x 18	638242	27451	5,400	—	—	—
3/8 x 20	638241	27450	5,400	—	—	—
3/8 x 25	638232	33858	5,400	—	—	—

Sizes not coded can be furnished upon request.  
 \*\*Standard packaging 1 per bag. Others bulk.  
 All can be furnished bulk or bagged upon request.

**Clevis grab hook**

Size (in.)	Grade 43			Grade 70		
	Product code	UPC 43927-	Working load limit (lbs.)*	Product code	UPC 43927-	Working load limit (lbs.)*
5/16 x 14	—	—	—	638281	33309	4,700
5/16 x 16	—	—	—	638282	33310	4,700
5/16 x 18	—	—	—	638283	33311	4,700
5/16 x 20	—	—	—	638284	33312	4,700
5/16 x 25	—	—	—	638279	33308	4,700
3/8 x 12	638215	33859	5,400	—	—	—
3/8 x 14	638216	31888	5,400	638291	33860	6,600
3/8 x 16	638217	38217	5,400	638292	33488	6,600
3/8 x 18	638218	27442	5,400	638293	33489	6,600
3/8 x 20	638219	27443	5,400	638294	33490	6,600
3/8 x 25	638220	27444	5,400	—	—	6,600
1/2 x 18	—	—	—	—	—	—
1/2 x 20	—	—	—	—	—	—

Sizes not coded can be furnished upon request.  
 All can be furnished bulk or bagged upon request.



**\* ⚠ WARNING**

Death/injury can occur from improper use or maintenance of tie-down equipment.

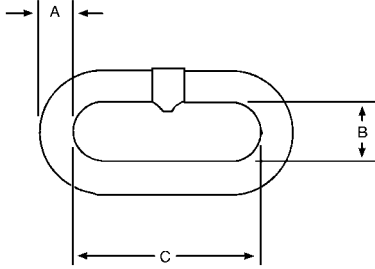
**TO AVOID INJURY:**

- Inspect before use. Remove from service if cracked, worn, or deformed.
- Do not overload. Load binders develop approximate working load with hand effort.
- Do not use handle extender on load binder(s).
- Do not use binder components for overhead lifting.

### CM dock fender/deck lashing chain

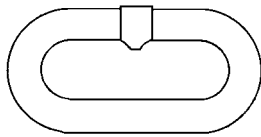
A long link heat treated high strength chain designed for marine use—cargo lashing or dock fendering. Extra inside length designed to accept shackles. Supplied self colored or hot dip gvanized.

Dia. (in.) A	Inside dimensions		Product code	UPC 43927-	Finish	Min. breaking strength (lbs.)	Wt./ft.
	B	C					
1/2	.950	3.735	695653	33850	S/C	50,000	1.85
1/2	.944	3.729	695658	33854	Galv.	35,000	2.00
5/8	.921	3.5	695663	33892	S/C	54,000	3.2
5/8	.922	3.75	695667	33896	Galv.	54,000	3.17
3/4	1.625	4.00	695678	33900	Galv.	77,000	4.91
3/4	1.125	3.75	695675	33898	Galv.	75,000	4.45
1	1.18	3.62	695729	22983	S/C	170,000	9.9



### Draglink chain

A long link, heat treated through hardened chain used in the trawling/fishing industry. Finish—black phosphate.



Size (in.)	Working load limit (lbs.)	Inside dimensions	Product code	UPC 43927-	Feet per drum	Weight per 100 ft. (lbs.)
3/8	6,200	.656 x 2.2	695026	33945	200	124
1/2	10,600	.937 x 2.0	695027	33961	200	247
5/8	16,150	.915 x 2.53	695028	33985	200	371

### Scallop/sweep chain—grade 70

A high strength, through hardened chain used for scalloping in the marine/fishing industry. Finish—black phosphate.

Size (in.)	Inside dimensions	Product code	UPC 43927-	Feet per drum	Weight per 100 ft. (lbs.)
5/8	.98 x 2.25	671646	34014	150	577

### Debarking/delimiting flail chain

A through hardened steel chain with optimum wear resistance for peak performance. Available in cut lengths natural finish.

Size (in.)	Inside dimensions	Product code	UPC 43927-	Weight per 100 ft. (lbs.)
5/8	.962 x 1.68	697001 (normal weld)	20699	393
5/8	.962 x 1.68	697201 (full trim)	20434	393

### Tow truck chain assemblies and attachments

Specify chain size, grade & length.

**J hook**  
Sports car  
Product code  
D90217Z

**J hook**  
Standard  
Product code  
D92800Z

**J hook**  
Heavy duty  
Product code  
M92801Z

**J hook**  
Sports car—  
clevis type  
Product code  
D90243

**J hook**  
Standard—  
clevis type  
Product code  
D90283

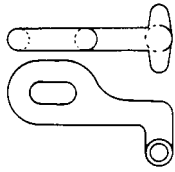
Other custom tow truck chain assemblies available.

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**CM components**

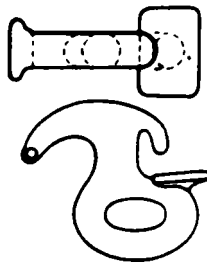
**T hook**

Product code  
D93403Z  
Zinc plated



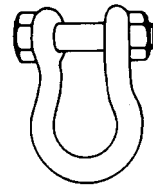
**R hook**

Product code  
D93420Z  
Zinc plated



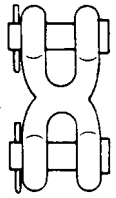
**Anchor shackle**

3/8" round pin anchor shackle with special lock nut.



**Mid-link**

Trade size (in.)	Product code
1/4 - 5/16	M605
3/8	M606
7/16 - 1/2	M608

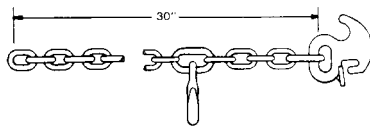


**CM vehicle tie-down assemblies**

Custom assemblies—apply for specific requirements.

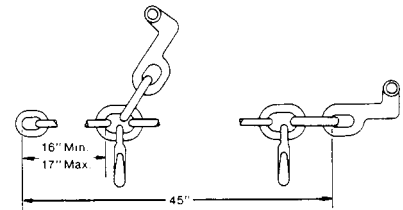
**Type RG**

5/16" (G43 chain)  
Working load  
limit 3,900 lbs.



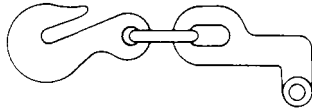
**Ford tri-level type TGTG**

5/16" (G43 chain)  
Working load  
limit 3,900 lbs.



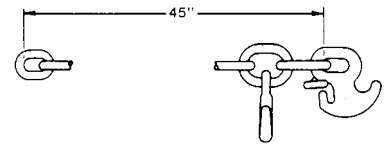
**Type GT**

CM drawing #695440  
Working load  
limit 3,900 lbs.



**General Motors type RG**

5/16" (G43 chain)  
Working load  
limit 3,900 lbs.



**CM welded non-graded chains**

CM manufactures a number of welded non-graded chains. While not classified as industrial grade chain they find use in a variety of light duty applications where bodily injury or

property damage is not likely. Such applications include use with guard rails, as a security chain, to support signs and very light suspended loads and as a curtain chain.

**CM passing link chain**



**Carton (100 ft.)**

Trade number	Bright finish		Zinc plated		Size material (in.)	Inside length (in.)	Inside width (in.)	Links per foot	Weight per 100 ft. (lbs.)	Working load limit (lbs.)*
	Product code	UPC 43927-	Product code	UPC 43927-						
2/0	623219	31104	623459	30866	3/16	7/8	15/32	13 <sup>5</sup> / <sub>8</sub>	33	450
4/0	623221	30906	623461	30912	7/32	7/8	1/2	13 <sup>5</sup> / <sub>8</sub>	43	600

An electrically welded steel chain, the links of which are designed with the inside width greater than twice the thickness of the material, thus allowing the two adjacent links to pass in any link, reducing any tendency to kink. Weights and dimensions are approximate. May be ordered bright (polished) or zinc plated. Packed 100 feet per carton. 2/0 size also available on 120 foot reels and 200 foot pails.

**\*⚠ WARNING**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

CM coil chain—twist link



Trade number	Carton (100 ft.)				Diameter wire		Link dimensions			Weight per 100 ft. (lbs.)	Working load limit (lbs.)*
	Bright finish		Zinc plated		Fractional inches	Decimal inches	Inside length (in.)	Inside width (in.)	Links per foot		
	Product code	UPC 43927-	Product code	UPC 43927-							
4	620709	61206	620809	31207	1/8	.120	13/32	3/16	11	10	195
3	620711	31256	620811	28620	9/64	.135	19/64	13/64	10 1/2	12	240
2	620713	31315	620813	31317	5/32	.148	19/64	7/32	10 1/2	16	295
1/0	620717	31380	620817	31382	11/64	.177	115/64	17/64	9 3/4	24	415
2/0	620719	31443	620819	31445	3/16	.192	115/64	19/64	9 3/4	28	495
4/0	620721	31514	620821	28695	7/32	.218	111/32	21/64	9	36	635
5/0	620725	31580	620825	31582	1/4	.250	115/32	3/8	8 1/8	48	835

Weights, dimensions and fractional equivalents are approximate. May be ordered bright (polished), zinc plated or hot galvanized. Packed 100 feet per carton.

CM coil chain—straight link



Trade number	Carton (100 ft.)				Diameter wire		Link dimensions			Weight per 100 ft. (lbs.)	Working load limit (lbs.)*
	Bright finish		Zinc plated		Fractional inches	Decimal inches	Inside length (in.)	Inside width (in.)	Links per foot		
	Product code	UPC 43927-	Product code	UPC 43927-							
4	620209	31198	620309	31199	1/8	.120	17/64	13/64	10 7/8	10	205
3	620211	31245	620311	31247	9/64	.135	111/64	15/64	10 1/4	13	255
2	620213	31305	620313	31307	5/32	.148	111/64	17/64	10 1/8	15	310
1/0	620217	31370	620317	20317	11/64	.177	11/4	5/16	9 5/8	23	440
2/0	620219	31430	620319	20319	3/16	.192	117/64	11/32	9 1/2	27	520
4/0	620221	31505	620321	31507	7/32	.218	125/64	3/8	8 5/8	35	670
5/0	620225	31571	620325	31573	1/4	.250	133/64	7/16	7 7/8	46	880

Weights, dimensions and fractional equivalents are approximate. May be ordered bright (polished), zinc plated or hot galvanized. Packed 100 feet per carton. Also available on reels or in 10 foot polybags.

CM machine chain—twist link



Trade number	Carton (100 ft.)				Diameter wire		Link dimensions			Weight per 100 ft. (lbs.)	Working load limit (lbs.)*
	Bright finish		Zinc plated		Fractional inches	Decimal inches	Inside length (in.)	Inside width (in.)	Links per foot		
	Product code	UPC 43927-	Product code	UPC 43927-							
4	621709	31630	621809	31631	1/8	.120	33/64	12/64	23	13	205
3	621711	31693	621811	20600	9/64	.135	9/16	13/64	21 1/2	16	255
2	621713	31744	621813	31746	5/32	.148	37/64	7/32	21	20	310
1/0	621717	31792	621817	21817	11/64	.177	47/64	17/64	17 1/2	29	440
2/0	621719	31894	621819	21819	3/16	.192	23/32	9/32	16 1/2	34	520
4/0	621721	31952	621821	31954	7/32	.218	57/64	5/16	13 1/2	44	670
5/0	621725	31997	621825	21825	1/4	.250	1	3/8	12	57	880

Weights, dimensions and fractional equivalents are approximate. May be ordered bright (polished), zinc plated or hot galvanized. Packed 100 feet per carton. Also available on reels.

CM machine chain—straight link



Trade number	Carton (100 ft.)				Diameter wire		Link dimensions			Weight per 100 ft. (lbs.)	Working load limit (lbs.)*
	Bright finish		Zinc plated		Fractional inches	Decimal inches	Inside length (in.)	Inside width (in.)	Links per foot		
	Product code	UPC 43927-	Product code	UPC 43927-							
4	621209	31620	621309	31621	1/8	.120	35/64	7/32	22	12	215
3	621211	31681	621311	31683	9/64	.135	19/32	15/64	20 1/4	15	270
2	621213	31730	621313	31732	5/32	.148	39/64	17/64	19 3/4	19	325
1/0	621217	31780	621317	31782	11/64	.177	47/64	5/16	16 1/4	27	465
2/0	621219	31881	621319	31883	3/16	.192	25/32	11/32	15 1/4	32	545
4/0	621221	31941	621321	31943	7/32	.218	61/64	3/8	12 1/2	40	700
5/0	621225	31985	621325	31987	1/4	.250	15/64	7/16	11 1/4	54	925

Weights, dimensions and fractional equivalents are approximate. May be ordered bright (polished), zinc plated or hot galvanized. Packed 100 feet per carton. Also available on reels.

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**CM Claw cross chain**

Case hardened—bright finish



Trade number	Trade size (in.)	Product code	UPC 43927-	Inside width (in.)	Inside length (in.)	Links per foot	Weight per 100 ft. (lbs.)
7/0	5/16	315931	32253	.467	1.093	11	94
8/0	11/32	315934	32333	.537	1.234	9 <sup>3</sup> / <sub>4</sub>	113
9/0	3/8	315937	32436	.671	1.266	9 <sup>1</sup> / <sub>2</sub>	141

Packed 100 ft. per carton. Also available in cut lengths with or without cross chain hooks.

**CM regular cross chain**

Case hardened—bright finish



Trade number	Trade size (in.)	Product code	UPC 43927-	Inside width (in.)	Inside length (in.)	Links per foot	Weight per 100 ft. (lbs.)
7/0	5/16	322855	32254	.467	1.093	11	94
8/0	11/32	322856	32334	.537	1.234	9 <sup>3</sup> / <sub>4</sub>	113
9/0	3/8	322857	32437	.671	1.266	9 <sup>1</sup> / <sub>2</sub>	142
11/0	7/16	322859	32229	.687	1.600	7 <sup>1</sup> / <sub>2</sub>	189

Packed 100 ft. per carton. Also available in cut lengths with or without cross chain hooks.

**CM side chain**

Bright finish



Trade number	Trade size (in.)	Product code	UPC 43927-	Inside width (in.)	Inside length (in.)	Links per foot	Weight per 100 ft. (lbs.)
6/0	9/32	314028	32125	.500	1.830	6 <sup>1</sup> / <sub>2</sub>	59
7/0	5/16	314031	32142	.500	2.070	5 <sup>3</sup> / <sub>4</sub>	72
8/0	11/32	314034	32178	.531	1.937	6 <sup>1</sup> / <sub>5</sub>	88
9/0	3/8	314037	32190	.625	2.260	5 <sup>1</sup> / <sub>4</sub>	107
11/0	7/16	314043	32206	.656	2.330	5 <sup>1</sup> / <sub>4</sub>	149

Packed 100 ft. per carton.

**CM swivel cross chain hooks**

Bright finish



Trade number	Use with	Product code	UPC 43927-	Weight per 100 pcs. (lbs.)
9	7/0, 8/0 or 9/0 side chain 8/0 or 9/0 reg. cross chain	321056	34627	25

Packed 50 pieces per carton.

**CM cross chain hooks**

Bright finish



Trade number	Trade size (in.)	Product code	UPC 43927-	Weight per 100 pcs. (lbs.)
4	5/16	221130	34615	17
6	3/8	221136	34626	26 <sup>1</sup> / <sub>2</sub>
6 <sup>1</sup> / <sub>2</sub>	13/32	221141	34638	31
7	7/16	221143	34648	44

Bulk packing.

**CM side chain fasteners**

No. 54



Trade size (in.)	Use with	Product code	UPC 43927-	Weight per carton (lbs.)
5	9/32 to 11/32 side chain	311452	34654	7

Packed 20 pieces per carton.

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**\*⚠ WARNING**

**TO AVOID INJURY:**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

**CM weldless non-graded chain**

CM markets a number of light duty weldless chains. Some uses include plumbing applications, boats, gates, animal

leashes, window sashes, support of fixtures, and playground equipment.

**CM double loop chain**



Trade number	Working load limit (lbs.)*	Carton				Feet per carton	Material diameter (in.)	Inside length (in.)	Links per foot	Weight per 100 ft. (lbs.)
		Bright finish		Zinc plated						
		Product code	UPC 43927-	Product code	UPC 43927-					
5	55	680150	35104	680450	35145	100	.062	.92	13	3 1/2
4	70	680151	35105	680451	80451	100	.072	1.00	12	4 1/2
3	90	680152	35106	680452	35147	100	.080	1.10	11	5 3/4
2	115	680153	35107	680453	35148	100	.092	1.33	9	7 1/2
1	155	680154	35108	680454	35149	100	.105	1.50	8	10
1/0	200	680155	35109	680455	35150	100	.120	1.71	7	13
2/0	255	680156	35110	680456	35151	100	.135	1.71	7	17
3/0	305	680157	35111	680457	35152	100	.148	2.18	5.5	20
4/0	365	680158	35112	680458	35153	100	.162	2.18	5.5	23
8/0	705	680159	35113	680459	35154	100	.225	2.90	4.1	48

Applications: A general purpose chain, often used for playground equipment, animal leashes, fixture, swing or hammock suspensions, boats and gates.

Description: Standard material is a mild steel. Finishes include bright or zinc plated.

Packing: Standard packaging is 100 feet per carton. Sizes 4 through 4/0 also available on reels.

**Plastic display reel**

Trade number	Working load limit (lbs.)*	Zinc plated		Feet per reel	Weight per reel (lbs.)
		Product code	UPC 43927-		
4	70	680421	80421	500	24
3	90	680432	80432	150	9
3	90	680442	80442	200	13
2	115	680423	80423	250	20
1	155	680424	80424	250	25
1/0	200	680425	80425	250	33
2/0	255	680436	80436	175	30
3/0	305	680437	35139	175	35
4/0	365	680438	35140	175	40

**CM single loop chain**



Trade number	Working load limit (lbs.)*	Carton				Feet per carton	Material diameter (in.)	Inside length (in.)	Links per foot	Weight per 100 ft. (lbs.)
		Bright finish		Zinc plated						
		Product code	UPC 43927-	Product code	UPC 43927-					
2	155	681150	35350	681450	35380	100	.091	1.08	11.1	10
1/0	265	681151	35351	681451	35381	100	.120	1.29	9.3	17
2/0	340	681152	35352	681452	35382	100	.135	1.48	8.1	22
3/0	405	681153	35353	681453	35383	100	.148	1.63	7.4	26
4/0	485	681154	35354	681454	35384	100	.162	1.80	6.7	31
5/0	580	681155	35355	681455	35385	100	.177	2.15	5.6	35

Applications: Ideal for sprocket wheel or valve wheel, overhead door, ventilator and machinery chains for applications requiring greater strength than double loop chain.

Description: Standard material is a mild steel; also available in brass. Finishes include bright or zinc plated.

Packing: 100 feet per carton is standard. Also available on reels.

**Plastic display reel**

Trade number	Working load limit (lbs.)*	Zinc plated		Feet per reel	Weight per reel (lbs.)
		Product code	UPC 43927-		
2	155	681420	81420	100	155
2/0	340	681422	81422	100	340
4/0	485	681424	81424	100	485

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CM single jack chain

Trade number	Working load limit (lbs.)*		Carton						Feet per carton	Material diameter (in.)	Inside length (in.)	Links per foot	Steel weight per 100 ft. (lbs.)	Brass weight per 100 ft. (lbs.)
			Bright finish		Zinc plated		Brass (bright)							
	Steel	Brass	Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-						
18	5	4	684151	35523	684451	84451	684751	84751	100	.047	.39	31	1 3/4	2
16	10	8	684152	35524	684452	84452	684752	84752	100	.062	.50	25	3	3 1/4
14	16	11	684153	35525	684453	84453	684753	84753	100	.080	.63	19	5	5 1/4
12	29	20	684154	35526	684454	84454	684754	35586	100	.105	.75	16	8 3/4	9 1/4
10	43	34	684155	35527	684455	84455	684755	35587	100	.135	.93	13	14 3/4	15 1/4
8	60	43	684156	35528	684456	35554	684756	35588	100	.162	1.09	11	20 1/2	22

Applications: A light general utility chain often used to suspend light fixtures or novelties.  
 Description: Standard material is a mild steel; also available in brass. Finishes include bright or zinc plated.  
 Packing: 100 feet per carton is standard. Also available on reels.



Trade number	Plastic display reel				Feet per reel	Weight per reel zinc plated (lbs.)	Weight per reel brass (bright) (lbs.)
	Zinc plated		Brass (bright)				
	Product code	UPC 43927-	Product code	UPC 43927-			
16	684432	84432	684732	84732	250	7.50	8.25
14	684433	84433	684733	84733	200	10.00	10.50
12	684434	84434	—	—	200	17.50	18.50

CM safety chain/brass



Trade number	Working load limit (lbs.)*	Carton		Feet per carton	Stock thickness (in.)	Inside length (in.)	Links per foot	Weight per 100 ft. (lbs.)
		Brass (bright)						
		Product code	UPC 43927-					
2/0	23	685754	35050	100	.018	.44	27	2 1/4
1/0	30	685755	35051	100	.023	.50	24	2 1/2
1	40	685756	35052	100	.028	.60	20	3 1/4
3	75	685758	35053	100	.037	.75	16	6 1/4

Applications: Primarily designed for use with plumbing fixtures, though suitable for many applications requiring light, flat metal chain.  
 Description: Available in brass with bright finish.  
 Packing: Refill reels of No. 1/0 bright brass (200 ft.) are available for display merchandisers. All sizes can be bulk packed. 100 feet per carton is standard.

Plastic display reels—bright brass

Trade number	Display reel		Feet per reel	Weight per reel (lbs.)
	Brass (bright)			
	Product code	UPC 43927-		
1/0	685735	85735	200	5

**\* ⚠ WARNING**

**TO AVOID INJURY:**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

CM sash chain



Trade number	Working load limit (lbs.)*	Carton						Feet per carton	Stock thickness (in.)	Inside length (in.)	Links per foot	Weight per 100 ft. (lbs.)
		Bright finish		Zinc plated		Copper plated						
		Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-					
8	75	683151	34858	683451	34881	683551	83551	100	.035	.57	21	4
25	94	683152	34859	683452	34882	683552	34898	100	.042	.57	21	5
30	80	683153	34860	683453	34883	683553	34899	100	.028	.57	21	5 1/2
35	105	683154	34861	683454	34884	683554	83554	100	.035	.57	21	7
40	140	683156	34862	683456	34885	683556	34901	100	.042	.55	22	8
45	175	683157	34863	683457	34886	683557	34902	100	.050	.55	22	9 1/2
50	225	683158	34864	683458	34887	683558	34903	100	.062	.62	19.5	13

Applications: Primarily used as a counter-balance chain for double-hung window sashes. Also suitable for use with arc lamps, as an animal leash and for many applications requiring flat metal chain operating over pulleys. Description: Mild steel is the standard material. Also available in bronze, stainless steel, brass and aluminum. Finishes include bright, copper plated and zinc plated.

Plastic display reels—zinc plated

Trade number	Display reel		Feet per reel	Weight per reel (lbs.)
	Zinc plated			
Product code	UPC 43927-			
35	683434	83434	100	7

Solid bronze

Trade number	Working load limit (lbs.)*	Display reel		Feet per reel	Stock thickness (in.)	Inside length (in.)	Links per foot	Weight per 100 ft. (lbs.)
		Solid bronze						
		Product code	UPC 43927-					
35	100	683654	34918	100	.035	.57	21	7 1/2

CM special well chain



Trade number	Working load limit (lbs.)*	Product code	UPC 43927-	Feet per reel	Material diameter (in.)	Approx. weight per carton (lbs.)
2/0	255	679456	79456	250	.135	41

Applications: Designed primarily for use with windlass and bucket to raise water from wells or cisterns. Also considered a general utility chain. Description: A mild steel chain, zinc plated. Packing: 250 feet per carton.

Cable (not for use in aircraft controls)

Product code	UPC 43927-	Feet per reel	Descriptions
695944	95944	250	3/32" Galvanized aircraft—vinyl coated to 3/16"
695945	95945	250	1/8" Galvanized aircraft—vinyl coated to 3/16"
695947	95947	250	3/16" Galvanized aircraft—vinyl coated to 1/4"
695948	95948	200	1/4" Galvanized aircraft—vinyl coated to 5/16"
695935	95935	500	1/8" 7 x 7 Galvanized aircraft cable
695937	95937	250	3/16" 7 x 19 Galvanized aircraft cable
695938	95938	250	1/4" 7 x 19 Galvanized aircraft cable
695909	95909	200	5/16" 7 x 19 Galvanized aircraft cable
695910	95910	250	1/8" 7 x 19 Galvanized aircraft cable

**\*▲WARNING**

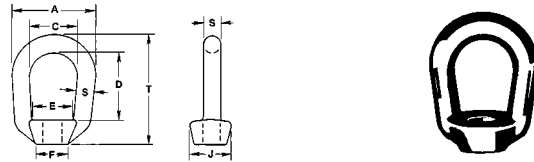
**TO AVOID INJURY:**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.



**CM tapped eyenuts**

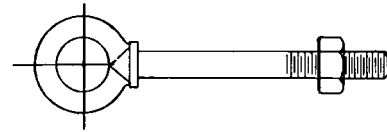
- Forged
- Heat treated
- Hot galvanized per ASTM A153



Size no.	Dia. (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Std. tap size (in.)	Dimensions (inches)								Approx. weight each (lbs.)
						A	C	D	E	F	J	S	T	
3A	3/8	2,250	M2602	45987	1/2	2.00	1.250	1.562	1.000	.88	1.063	.375	2.62	.30
4	1/2	3,600	M2603	45988	5/8	2.50	1.500	2.063	1.160	.94	1.312	.500	3.31	.58
5	5/8	5,200	M2604	45989	3/4	3.00	1.750	2.437	1.375	1.19	1.500	.625	4.00	.97
6	3/4	7,200	M2607	45990	7/8	3.50	2.000	2.687	1.625	1.31	1.875	.750	4.50	1.76
8	1	15,500	M2609	45991	1 1/4	4.75	2.750	3.531	2.000	1.50	2.062	1.000	5.88	3.81
9	1 1/8	18,500	M2611	46271	1 3/8	5.50	3.250	4.062	2.531	2.06	3.000	1.125	6.73	5.00

**CM shoulder eyebolt—specials**

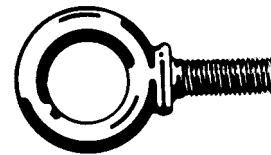
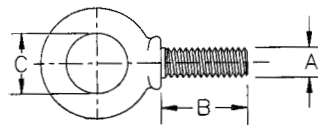
- Drop forged.
- Quenched and tempered.
- Self colored finish.
- With or without thread.
- Available upon request:
  - Other shank lengths less than those specified below.
  - Other finishes, i.e., galvanized, zinc plated, painted.
  - Other materials
    - Alloy
    - Stainless
    - Untreated carbon steel (working load limits do not apply).
- Price on application. In your inquiry, please specify quantity, finish and any other special requirements.



Working load limit (lbs.) full length*	Product code	Dimensions (inches)				Approx. weight each (lbs.)	
		Shank dia. & length	Eye		Length threads	Plain	Nut type
1,200	1048EB	3/8 x 2 1/2	3/4	1 3/8	1 1/2	.16	.20
1,200	1848EB	3/8 x 4 1/2	3/4	1 3/8	2 1/2	.24	.32
2,200	1350EB	1/2 x 3 1/4	1	1 3/4	1 1/2	.33	.38
2,200	2450EB	1/2 x 6	1	1 3/4	3	.51	.59
3,500	1651EB	5/8 x 4	1 1/4	2 1/4	2	.75	.78
3,500	2451EB	5/8 x 6	1 1/4	2 1/4	3	.89	1.00

**CM shoulder eyebolt**

- Forged steel
- Heat treated
- Quenched & tempered
- Meets IFI standards, ASTM A489, ANSI/ASME, B18.15



Size dia. (in.)	Working load limit* (lbs.)	Product code	UPC 43927-	Dimensions (inches)				Approx. weight each (lbs.)
				A	B	C	Thread UNC-2A	
1/4 x 1	500	456920	20865	1/4	1	3/4	1/4 - 20	.06
5/16 x 1 1/8	900	456921	20866	5/16	1 1/8	7/8	5/16 - 18	.11
3/8 x 1 1/4	1,300	456922	20867	3/8	1 1/4	1	3/8 - 16	.18
1/2 x 1 1/2	2,400	456923	20868	1/2	1 1/2	1 3/16	1/2 - 13	.35
5/8 x 1 3/4	4,000	456924	20869	5/8	1 3/4	1 3/8	5/8 - 11	.70
3/4 x 2	5,000	456925	20870	3/4	2	1 1/2	3/4 - 10	1.10
7/8 x 2 1/4	7,000	456926	20871	7/8	2 1/4	1 11/16	7/8 - 9	1.70
1 x 2 1/2	9,000	456927	20872	1	2 1/2	1 13/16	1 - 8	2.36
1 1/4 x 3	15,000	456928	20873	1 1/4	3	2 3/16	1 1/4 - 7	4.68
1 1/2 x 3 1/2	21,000	456929	20874	1 1/2	3 1/2	2 9/16	1 1/2 - 6	7.77

**NOTE:** Do not exceed the working load limit – reduce the working load limit according to the adjacent table if loading other than true vertical. Inspect eyebolts before use. Do not use if bent more than 15° or if wear of more than 10% of original dimension is evident. Install with shoulder at 90° to axis of hole to assure total contact of shoulder. Torque nut/eyebolt to assure proper seating. Check seating after initial loading.

If installing in tapped hole, make sure depth of thread engagement is at least 1 1/2 times bolt diameter. Thread fit must also be good-tight, not loose-sloppy.

Where eyebolts must be aligned, a washer or shim may be placed under the shoulder to permit alignment when tightened.

To minimize the bending moment, always apply load in the direction of the plane of the eye. Reduce working load limit according to table if loaded other than true vertical.

Never insert a hook tip in an eyebolt; always use a shackle to connect eyebolt to load. Do not use a sling reeved through an eyebolt or a pair of eyebolts. Attach each single sling leg to an eyebolt using a shackle.

**Shoulder eyebolt working load limit**  
Angle of loading

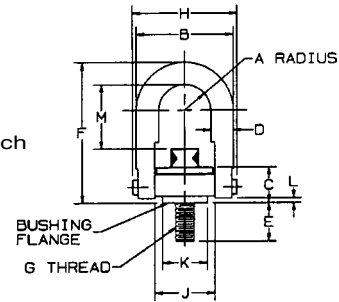
True vertical	75°	65°	45°	less than 45°
Full working load limit (refer to full catalog page)	55% of full working load limit	35% of full working load limit	25% of full working load limit	Do not use

**If in doubt, consult a rigging handbook or discuss with a qualified person.**

CM specialty engineered hoist rings

- Bale and shoulder pins machined from alloy steel
- Patented design provides shoulder pin retention with specialized clip
- Easy disassembly for periodic non-destructive inspection
- Capacity range from 800-100,000 lbs.
- Specials available in stainless steel and metric sizes

Standard tolerance ± .030 inch unless otherwise specified



Product Code	Rated Load (lbs.)	A	B	C	D	E ±.060	F ±.060	G	H ±.060	J	K	L	M	RTL* (ft./lbs.)	Weight (lbs.)
423051	800	.43	1.61	.71	3/8	.29	2.67	5/16-18	1.84	1.00	.75	.17	1.27	7	.31
423052	800	.43	1.61	.71	3/8	.54	2.67	5/16-18	1.84	1.00	.75	.17	1.27	7	.31
423053	1,000	.43	1.61	.71	3/8	.54	2.67	3/8-16	1.84	1.00	.75	.17	1.21	12	.31
423301	2,500	.70	2.40	.93	1/2	1.07	3.77	1/2-13	2.58	1.49	1.25	.20	1.84	28	1.00
423004	2,500	.88	3.25	1.22	3/4	.78	4.78	1/2-13	3.52	1.99	1.50	.16	2.31	28	2.31
•423322	2,500	.88	3.25	1.22	3/4	.78	6.72	1/2-13	3.52	1.99	1.50	.16	4.25	28	2.75
423005	2,500	.88	3.25	1.22	3/4	1.03	4.78	1/2-13	3.52	1.99	1.50	.16	2.31	28	2.31
•423323	2,500	.88	3.25	1.22	3/4	1.03	6.72	1/2-13	3.52	1.99	1.50	.16	4.25	28	2.00
423006	2,500	.88	3.25	1.22	3/4	1.28	4.78	1/2-13	3.52	1.99	1.50	.16	2.31	28	2.31
•423324	2,500	.88	3.25	1.22	3/4	1.28	6.72	1/2-13	3.52	1.99	1.50	.16	4.25	28	2.75
423001	4,000	.88	3.25	1.22	3/4	.78	4.78	5/8-11	3.52	1.99	1.50	.16	2.18	60	2.44
423002	4,000	.88	3.25	1.22	3/4	1.03	4.78	5/8-11	3.52	1.99	1.50	.16	2.18	60	2.44
•423320	4,000	.88	3.25	1.22	3/4	1.03	6.72	5/8-11	3.52	1.99	1.50	.16	4.12	60	2.88
423003	4,000	.88	3.25	1.22	3/4	1.28	4.78	5/8-11	3.52	1.99	1.50	.16	2.18	60	2.44
•423321	4,000	.88	3.25	1.22	3/4	1.28	6.72	5/8-11	3.52	1.99	1.50	.16	4.12	60	2.88
423007	5,000	.88	3.25	1.22	3/4	1.03	4.78	3/4-10	3.52	1.99	1.50	.16	2.06	100	2.56
•423325	5,000	.88	3.25	1.22	3/4	1.03	6.72	3/4-10	3.52	1.99	1.50	.16	4.00	100	3.00
423009	5,000	.88	3.25	1.22	3/4	1.53	4.78	3/4-10	3.52	1.99	1.50	.16	2.06	100	2.56
•423327	5,000	.88	3.25	1.22	3/4	1.53	6.72	3/4-10	3.52	1.99	1.50	.16	4.00	100	3.00
423102	7,000	1.40	4.80	1.71	1	1.04	6.52	3/4-10	5.14	3.00	2.37	.24	3.06	100	6.23
423329	7,000	1.40	4.80	1.71	1	1.04	8.11	3/4-10	5.14	3.00	2.37	.24	4.65	100	7.25
423103	7,000	1.40	4.80	1.71	1	1.54	6.52	3/4-10	5.14	3.00	2.37	.24	3.06	100	6.63
423330	7,000	1.40	4.80	1.71	1	1.54	8.11	3/4-10	5.14	3.00	2.37	.24	4.65	100	6.63
423101	8,000	1.40	4.80	1.71	1	1.04	6.52	7/8-9	5.14	3.00	2.37	.24	2.93	160	6.75
•423328	8,000	1.40	4.80	1.71	1	1.04	8.11	7/8-9	5.14	3.00	2.37	.24	4.52	160	6.75
423105	10,000	1.40	4.93	1.71	1	1.29	6.52	1-8	5.14	3.00	2.37	.24	2.81	230	7.00
•423331	10,000	1.40	4.93	1.71	1	1.29	8.11	1-8	5.14	3.00	2.37	.24	4.40	230	7.00
423106	10,000	1.40	4.93	1.71	1	1.54	6.52	1-8	5.14	3.00	2.37	.24	2.81	230	7.00
•423332	10,000	1.40	4.93	1.71	1	1.54	8.11	1-8	5.14	3.00	2.37	.24	4.40	230	7.00
423107	10,000	1.40	4.93	1.71	1	2.29	6.52	1-8	5.14	3.00	2.37	.24	2.81	230	7.00
•423333	10,000	1.40	4.93	1.71	1	2.29	8.11	1-8	5.14	3.00	2.37	.24	4.40	230	7.00
423401	15,000	1.75	6.00	2.11	1 1/4	1.89	8.73	1 1/4-7	6.50	3.76	3.20	.35	4.12	470	14.00
423202	24,000	2.25	8.00	2.81	1 3/4	2.70	12.47	1 1/2-6	8.55	4.87	4.20	.47	6.41	800	33.75
423200	30,000	2.25	8.00	2.81	1 3/4	2.96	12.47	2-4 1/2	8.55	4.87	4.20	.47	5.41	800	36.00
423501	50,000	3.00	10.50	4.09	2 1/4	4.00	16.87	2 1/2-8	11.67	6.52	5.75	1.12	8.03	2,100	87.50
423503	50,000	3.00	10.50	4.09	2 1/4	4.00	16.87	2 1/2-4	11.67	6.52	5.75	1.12	8.03	2,100	87.50
423600	75,000	3.75	13.00	5.27	2 3/4	5.20	19.50	3-4	14.15	8.10	7.25	1.00	8.48	4,300	166.00
423701	100,000	4.00	14.50	6.06	3 1/4	7.00	22.09	3 1/2-4	15.90	8.60	7.75	1.09	9.28	6,600	240.00

• Long Bar Model  
 \*Recommended Torque Load  
 All dimensions approximate  
 All sizes in inches unless otherwise specified

**\* ⚠ WARNING**

**Improper Installation and use of hoist rings can cause injury.**

**TO AVOID INJURY:**

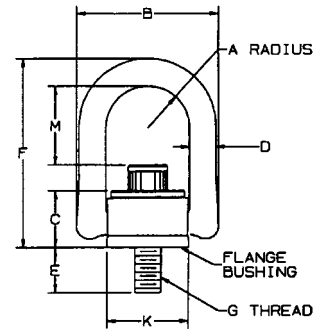
- Do not exceed rated load.
- Install rings per instructions. Verify full 360° seating— Retorque periodically.
- Consult angular lifting graph when lifting at other than 90°

2

MEX (55) 53 63 23 31 MTY (81) 83 54 10 18  
 QRO (442) 1 95 72 60  
 MAGZA INDUSTRIAL  
 DIST. AUTORIZADO  
 ventas@industrialmagza.com

**CM heavy duty hoist rings**

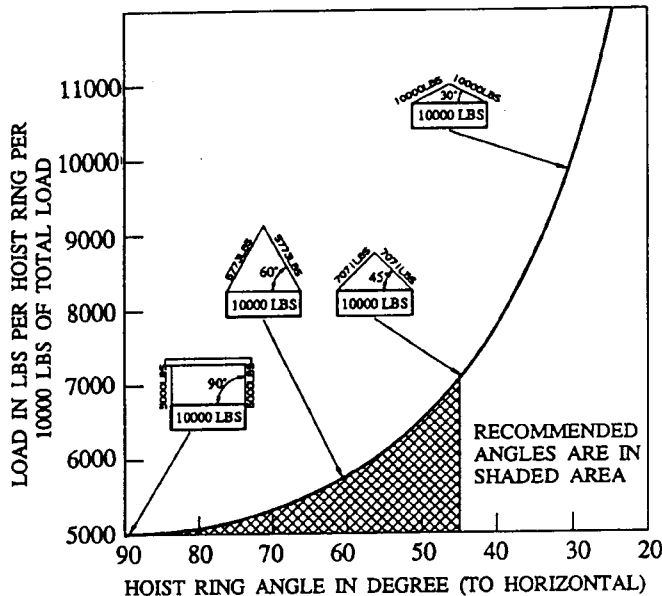
- Back and side pins constructed of one piece forged alloy steel
- Less moving parts than competitive rings
- Bale and center body are closed die forged to assure superior grain flow and consistent dimensional accuracy
- 100% magnetic particle inspected
- Patented product specified in wide range of industries
- Larger bale allows use of a variety of hook sizes
- Easy disassembly for periodic non-destructive inspection
- Capacities range from 800-24,000 lbs.
- Economically priced



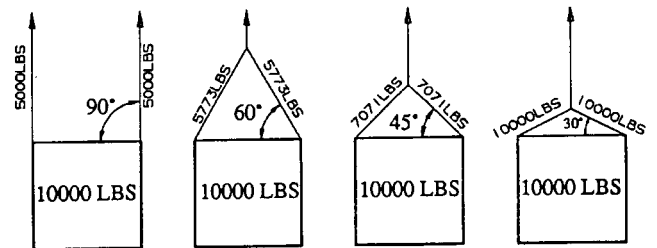
Product Code	Rated Load (lbs.)	A	B	C	D	E	F	G	K	RTL* (ft./lbs.)	M	Net Weight (lbs.)
433212	800	.65	2.29	.96	.44	.56	3.23	5/16-18	1.25	7	1.51	.52
433214	800	.65	2.29	.96	.44	1.06	3.23	5/16-18	1.25	7	1.51	.54
433312	1,000	.65	2.29	.96	.44	.56	3.23	3/8-16	1.25	12	1.45	.56
433314	1,000	.65	2.29	.96	.44	1.06	3.23	3/8-16	1.25	12	1.45	.58
433515	2,500	1.00	3.50	1.50	.75	1.00	5.31	1/2-13	1.89	28	2.56	1.72
433516	2,500	1.00	3.50	1.50	.75	1.25	5.31	1/2-13	1.89	28	2.56	1.82
433614	4,000	1.00	3.50	1.50	.75	1.00	5.31	5/8-11	1.89	60	2.44	1.78
433615	4,000	1.00	3.50	1.50	.75	1.25	5.31	5/8-11	1.89	60	2.44	1.88
433714	5,000	1.00	3.50	1.50	.75	1.00	5.31	3/4-10	1.89	100	2.31	1.89
433716	5,000	1.00	3.50	1.50	.75	1.50	5.31	3/4-10	1.89	100	2.31	2.02
433102	7,000	1.40	5.10	2.05	1.00	1.20	7.00	3/4-10	2.81	100	3.20	7.23
433103	7,000	1.40	5.10	2.05	1.00	1.70	7.00	3/4-10	2.81	100	3.20	7.25
433101	8,000	1.40	5.10	2.05	1.00	1.20	7.00	7/8-9	2.81	160	3.07	7.33
433105	10,000	1.40	5.10	2.05	1.00	1.45	7.00	1-8	2.81	230	2.95	7.57
433106	10,000	1.40	5.10	2.05	1.00	1.70	7.00	1-8	2.81	230	2.95	7.63
433107	10,000	1.40	5.10	2.05	1.00	2.45	7.00	1-8	2.81	230	2.95	7.81
433401	15,000	2.00	6.75	2.87	1.25	2.63	9.22	1 1/4-7	3.88	470	3.74	16.00
433420	20,000	2.00	6.75	2.87	1.25	2.63	9.22	1 3/8-6	3.88	670	3.62	17.20
433424	24,000	2.00	6.75	2.87	1.25	2.63	9.22	1 1/2-6	3.88	800	3.49	18.10

Replacement screws are available. Contact customer service for details.  
 All sizes in inches unless otherwise specified.  
 \*Recommended torque load.

**Angular Lifting Graph**



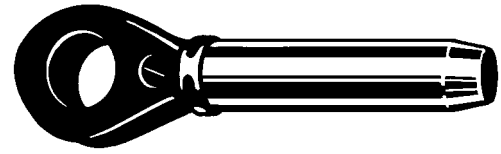
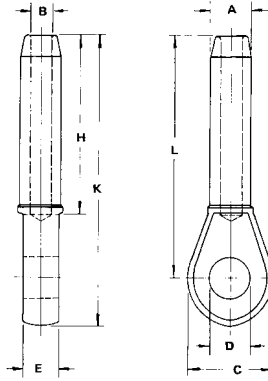
**Effect of Hoist Ring Angle on Load**



**INSTALLATION INSTRUCTIONS:** Drill and tap workpiece for hoist ring screw with axis vertical to mounting surface. Work surface should be flat and smooth to provide full 360° flush seating for the bushing flange. (SAFETY NOTE: Some loosening may develop after prolonged service in a permanent installation. It is advisable to periodically re-tighten the mounting screw to maintain the specified torque value.) The use of free fit spacers between the bushing flange and mounting surface is not recommended as this will reduce the safe load rating on angularly applied loads. Hoist ring must be free to swivel 360° and pivot 180° at all times.

**CM swage sockets closed**

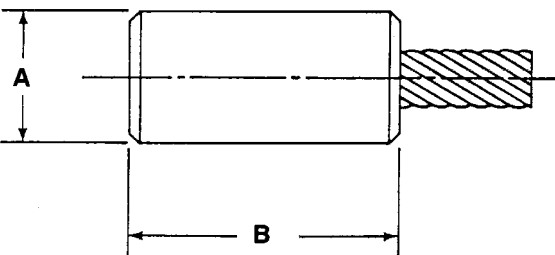
- Forged from fine grain, special bar quality C-1035 steel
- Spheroidized annealed for cold swaging
- Recommended for use on 6" x 19" or 6" x 37" IWRC regular lay wire ropes. Can also be used on galvanized bridge rope. NOT FOR USE ON FIBER CORE OR LANG LAY ROPES
- Sockets have 100% efficiency rating based on catalog strength of wire rope when properly applied



Rope dia. (in.)	Product code	UPC 43927-	Dimensions (inches)								After swage dia.	Approx. weight each (lbs.)
			A	B	C	D	E	H	K	L		
1/4	697151	20831	.495	.272	17/16	.750	1/2	2 1/8	4 3/8	3 1/2	.438	.34
5/16	697152	20832	.770	.339	1 11/16	.875	1 1/16	3 3/16	5 1/2	4 1/2	.688	.79
3/8	697153	20833	.770	.406	1 11/16	.875	1 1/16	3 3/16	5 1/2	4 1/2	.688	.78
7/16	697154	20834	.982	.484	2	1.063	7/8	4 1/4	6 15/16	5 3/4	.875	1.45
1/2	697155	20835	.982	.547	2	1.063	7/8	4 1/4	6 15/16	5 3/4	.875	1.38
9/16	697156	20836	1.257	.609	2 1/2	1.250	1 1/8	5 5/16	8 3/4	7 1/4	1.125	2.78
5/8	697157	20837	1.257	.672	2 1/2	1.250	1 1/8	5 5/16	8 3/4	7 1/4	1.125	2.75
3/4	697158	20838	1.545	.796	3	1.438	1 5/16	6 3/8	10 3/8	8 5/8	1.375	5.00
7/8	697159	20839	1.700	.938	3 1/2	1.688	1 1/2	7 7/16	12 1/8	10 1/8	1.50	7.50
1	697160	20840	1.975	1.062	4	2.063	1 3/4	8 1/2	13 3/4	11 1/2	1.75	11.2
1 1/8	697161	20841	2.245	1.188	4 1/2	2.313	2	9 9/16	15 1/4	12 3/4	2.00	15.8
1 1/4	697162	20842	2.525	1.328	5	2.563	2 1/4	10 5/8	17 1/4	14 3/8	2.25	23.0
1 3/8	697163	20843	2.800	1.453	5 1/4	2.563	2 1/4	11 11/16	18 7/8	15 3/4	2.50	31.0
1 1/2	697164	20844	3.075	1.578	5 1/2	2.813	2 1/2	12 3/4	20 3/8	17	2.75	39.0
1 3/4	697165	20845	3.385	1.859	6 3/4	3.563	3	14 7/8	24	20	3.00	52.0

**CM steel swage buttons**

- Fittings machined from specially selected and processed low carbon steel
- Buttons have 98% efficiency rating based on catalog strength of wire rope when properly applied
- Recommended for use with 6" x 7", 6" x 19" or 6" x 37", IPS or XIP (EIP), RRL, FC or IWRC wire rope
- Made in U.S.A.

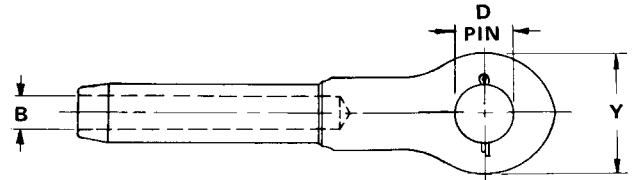
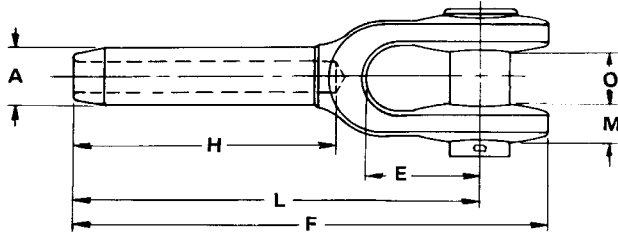
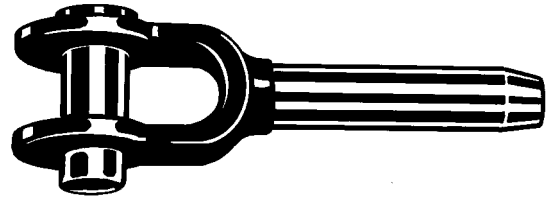


Rope dia. (in.)	Product code	UPC 43927-	After swage dimensions		Approx. weight each (lbs.)	
			A	B approx.		
1/8	697101	20800	3/8	5/8	.025	
3/16	697102	20801	1/2	+ .010	7/8	.050
1/4	697103	20802	9/16	- .010	1 3/16	.068
5/16	697104	20803	3/4		1 3/8	.156
3/8	697105	20804	3/4		1 3/4	.188
7/16	697106	20805	1		2	.393
1/2	697107	20806	1 1/8		2 3/16	.544
9/16	697108	20807	1 1/4	+ .020	2 7/16	.737
5/8	697109	20808	1 3/8	- .020	2 7/8	1.062
3/4	697110	20809	1 1/2		3 1/4	1.356
7/8	697111	20810	1 3/4		3 7/8	2.194
1	697112	20811	2		4 3/8	3.150
1 1/8	697113	20812	2 1/4		4 13/16	4.575
1 1/4	697114	20813	2 1/2	+ .030	5 7/16	7.000
1 3/8	697115	20814	2 3/4	- .030	6	9.150
1 1/2	697116	20815	3		6 1/2	12.025

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**CM swage sockets open**

- Forged from fine grain, special bar quality C-1035 steel
- Spheroidized annealed for cold swaging
- Recommended for use on 6" x 19" or 6" x 37" IWRC regular lay wire ropes. Can also be used on galvanized bridge rope. NOT FOR USE ON FIBER CORE OR LANG LAY ROPES
- Sockets have 100% efficiency rating based on catalog strength of wire rope when properly applied



2

Rope dia. (in.)	Product code	UPC 43927-	Dimensions (inches)										After swage dia. (in.)	Approx. weight each (lbs.)
			A	B	D	E	F	H	L	M	O	Y		
1/4	697120	20816	.495	.272	.688	1 1/2	4 3/4	2 1/8	4	5/16	11/16	1 3/8	.438	.55
5/16	697121	20817	.770	.339	.812	1 3/4	6 1/4	3 3/16	5 5/16	13/32	13/16	1 5/8	.688	1.10
3/8	697122	20818	.770	.406	.812	1 3/4	6 1/4	3 3/16	5 5/16	13/32	13/16	1 5/8	.688	1.08
7/16	697123	20819	.982	.484	1.00	2	7 13/16	4 1/4	6 11/16	1/2	1	2	.875	2.30
1/2	697124	20820	.982	.547	1.00	2	7 13/16	4 1/4	6 11/16	1/2	1	2	.875	2.25
9/16	697125	20821	1.257	.609	1.19	2 1/4	9 9/16	5 5/16	8 1/8	5/8	1 1/4	2 1/2	1.125	4.60
5/8	697126	20822	1.257	.672	1.19	2 1/4	9 9/16	5 5/16	8 1/8	5/8	1 1/4	2 1/2	1.125	4.50
3/4	697127	20823	1.545	.796	1.38	2 3/4	11 11/16	6 3/8	10	3/4	1 1/2	3	1.375	7.80
7/8	697128	20824	1.700	.938	1.63	3 1/4	13 5/8	7 7/16	11 5/8	15/16	1 3/4	3 3/8	1.50	11.7
1	697129	20825	1.975	1.062	2.00	3 3/4	15 5/8	8 1/2	13 3/8	1 1/32	2	4	1.75	17.8
1 1/8	697130	20826	2.245	1.188	2.25	4 1/4	17 1/2	9 9/16	15	13/16	2 1/4	4 1/2	2.00	29.7
1 1/4	697131	20827	2.525	1.328	2.50	4 3/4	19 7/16	10 5/8	16 1/2	13/16	2 1/2	5	2.25	36.0
1 3/8	697132	20828	2.800	1.453	2.50	5 1/4	21 1/4	11 11/16	18 1/8	15/16	2 1/2	5 1/4	2.50	47.0
1 1/2	697133	20829	3.075	1.578	2.75	5 3/4	23 1/4	12 3/4	19 3/4	17/16	3	5 3/4	2.75	65.0
1 3/4	697134	20830	3.385	1.859	3.50	6 3/4	27 1/8	14 7/8	23	11/16	3 1/2	7	3.00	93.0

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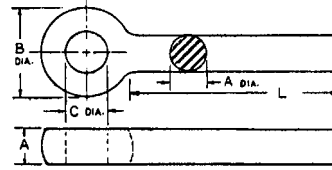
**\* ⚠ WARNING**

**TO AVOID INJURY:**

- Do not exceed working load limit.

CM rod end

- Upset forged.
- Quenched and tempered.
- Self colored finish.
- With or without thread.
- With or without hole.
- Available upon request:
- — Other shank lengths.
- — Other hole sizes.
- — Other finishes, i.e., galvanized, zinc plated, painted.
- — Other materials:  
Alloy  
Stainless  
Untreated carbon steel (working load limits do not apply).
- Price on application.  
In your inquiry, please specify quantity, hole size, finish and any other special requirements.

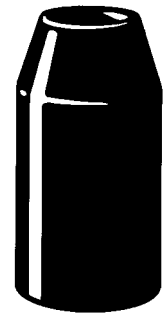
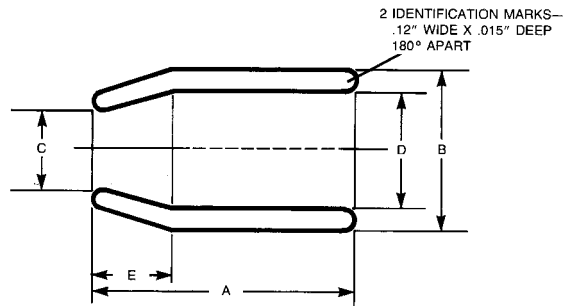


Working load limit (lbs.) full length*	Product code	Dimensions (inches)			
		Shank size A	Head size B	Hole size C	Std. shank length L
4,000	4851RE	5/8 (21/32)	1 9/16	13/16	12
6,000	4852RE	3/4	1 7/8	15/16	12
9,000	4853RE	7/8	2 1/8	1 1/16	12
12,000	4854RE	1	2 3/8	17/32	12
15,000	4855RE	1 1/8	2 5/8	15/16	12
18,000	7256RE	1 1/4	3 1/16	1 1/2	18
21,000	7266RE	1 3/8	3 1/4	15/8	18
25,000	7257RE	1 1/2	3 1/2	1 3/4	18
35,000	7277RE	1 3/4	3 7/8	1 7/8	18
45,000	7258RE	2	4 1/2	2 1/8	18

Working load limit applies for threaded parts and straight line loading.

CM steel swaging sleeves for Flemish eye wire rope slings

- Carbon steel sleeves come with unique color change quality control feature – color changes intensity once sleeve has been pressed verifying that swaging has occurred
- Zinc plating extends shelf life and resists rusting
- Color coding helps determine size and simplifies inventory
- Seamless construction
- Fits standard industry dies
- Mill certified, annealed low carbon steel provides consistent swaging without cracking
- No need for 16th size dies – O.D. of 16th sizes same as next largest sleeve size

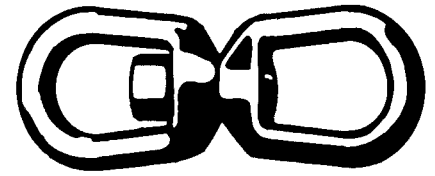
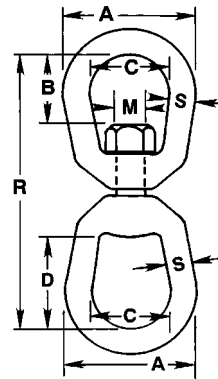


Rope dia. (in.)	Color	Product code	UPC 43927-	Dimensions (inches)					Wall thickness	After swage dia. (in.)	Quantity per carton	Approx. weight each (lbs.)
				A	B	C	D	E				
1/4	Gold	697180	20846	1	21/32	21/64	15/32	9/32	3/32	.50	250	.04
5/16	Red	697181	20847	1 1/2	29/32	7/16	39/64	7/16	9/64	.73	200	.14
3/8	Green	697182	20848	1 1/2	29/32	15/32	21/32	7/16	1/8	.73	100	.12
7/16	Blue	697183	20849	2	17/32	9/16	27/32	19/32	3/16	.98	50	.32
1/2	Gold	697184	20850	2	17/32	5/8	29/32	19/32	5/32	.98	50	.28
9/16	Red	697185	20851	2 3/4	115/32	11/16	11/32	45/64	7/32	1.20	25	.63
5/8	Green	697186	20852	2 3/4	115/32	3/4	13/32	45/64	3/16	1.20	25	.56
3/4	Blue	697187	20853	3 3/16	123/32	59/64	19/32	55/64	7/32	1.41	20	.88
7/8	Gold	697188	20854	3 9/16	21/32	11/32	117/32	1	1/4	1.63	10	1.38
1	Slf-Cird	697189	20855	4	29/32	15/32	123/32	1 1/8	9/32	1.88	10	1.90
1 1/8	Slf-Cird	697190	20856	4 13/16	2 1/2	19/32	115/16	1 1/4	9/32	2.08	Bulk	2.60
1 1/4	Slf-Cird	697191	20858	5 13/64	2 25/32	1 7/16	25/32	1 13/32	5/16	2.27	Bulk	3.40
1 3/8	Slf-Cird	697192	20859	5 13/16	3	1 9/16	23/8	1 9/16	5/16	2.46	Bulk	4.30
1 1/2	Slf-Cird	697193	20860	6 1/4	3 1/4	1 11/16	25/8	1 11/16	5/16	2.65	Bulk	5.00
1 3/4	Slf-Cird	697194	20861	7 1/4	3 27/32	1 15/16	31/8	1 31/32	23/64	3.04	Bulk	8.40
2	Slf-Cird	697195	20862	8 1/2	4 3/8	2 1/4	35/8	2 1/4	3/8	3.50	Bulk	11.30
2 1/4	Slf-Cird	697196	20863	9 9/16	5 1/32	2 1/2	4 1/32	2 17/32	1/2	4.06	Bulk	19.20
2 1/2	Slf-Cird	697197	20864	10 1/2	5 1/2	2 3/4	4 1/2	2 13/16	1/2	4.44	Bulk	23.20

Slf-Cird = Self-Colored

**CM regular forged eye and eye swivels**

- Hot dip galvanized - forged from special bar quality steel
- Ultimate load is 5 times working load limit
- Meets the performance requirements of RR-C-271D, Type VII, Class 2

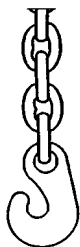


**2**

Dia. (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)							Approx. weight each (lbs.)
				A	B	C	D	M	R	S	
1/4	850	M4400	46011	1 1/4	5/8	3/4	1 1/16	5/16	2 15/16	1/4	.19
5/16	1,250	M4401	46012	1 5/8	3/4	1	1 1/4	3/8	3 9/16	5/16	.34
3/8	2,250	M4402	46013	2	7/8	1 1/4	1 1/2	1/2	4 5/16	3/8	.69
1/2	3,600	M4403	46014	2 1/2	1 3/16	1 1/2	2	5/8	5 3/8	1/2	1.34
5/8	5,200	M4404	46015	3	1 1/2	1 3/4	2 3/8	3/4	6 5/8	5/8	2.37
3/4	7,200	M4407	46016	3 1/2	1 5/8	2	2 5/8	7/8	7 3/8	3/4	4.00
1	12,500	M4409	46017	4 3/4	2 17/64	2 3/4	3 17/32	1 1/8	9 7/8	1	9.00

**CM winch line chains**

Made from grade 43 or grade 63 and used with wire rope. Hook is designed to reduce fraying of wire rope. Zinc plated.



Size (in.)	HIGH TEST GRADE 43				HERC-ALLOY GRADE 63			
	Working load limit (lbs.)*	Product code	UPC 43927-	Weight each (lbs.)	Working load limit (lbs.)*	Product code	UPC 43927-	Weight each (lbs.)
3/8 x 18	5,400	695077	20346	5	—	—	—	—
1/2 x 18	9,200	695074	20347	7	—	—	—	—
5/8 x 18	11,500	695078	20348	10	16,500	695178	22283	10
3/4 x 18	16,700	695080	20349	13	23,000	695180	22417	12
7/8 x 24	22,500	695083	20350	24	28,750	695183	22537	23
1 x 24	26,500	695085	20351	29	38,750	695185	22534	27

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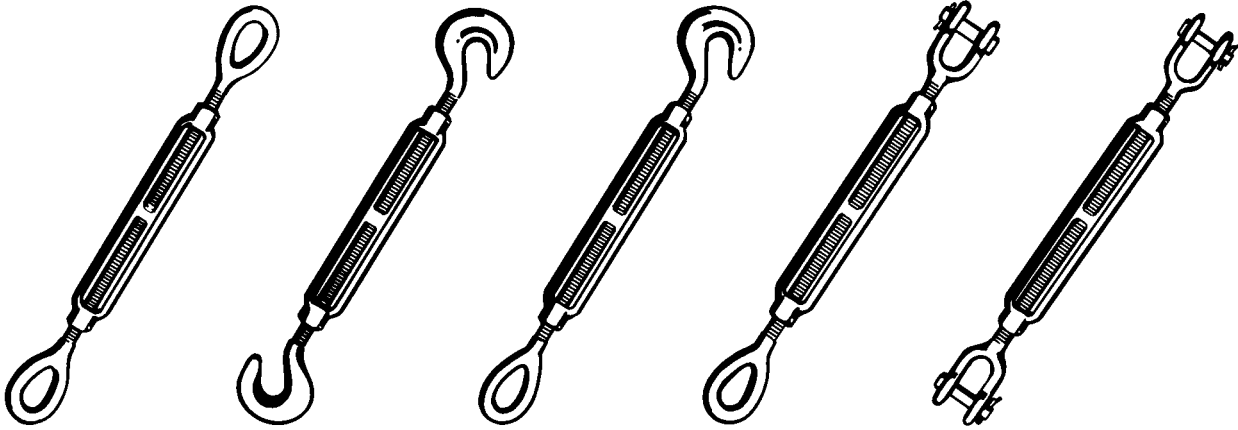
**\*⚠ WARNING**

**TO AVOID INJURY:**

- Do not exceed working load limit.

**CM turnbuckles**

- Hot dip galvanized
- Forged body
- Heat treated
- All meet ASTM F1145-92 Type 1 Grade 1, Eye and Eye Class D, Hook and Hook Class E, Hook and Eye Class F, Jaw and Jaw Class G, Jaw and Eye Class H (Supersedes Federal Specification FF-T-7916).
- Imported



**EYE & EYE (EE)    HOOK & HOOK (HH)    HOOK & EYE (HE)    JAW & EYE (JE)    JAW & JAW (JJ)**

Thread dia. x Take up (in.)	Product code	Average overall with ends in closed position (in.)	Weight each (lbs.)		
			Eye & Eye (EE) or Hook & **Hook (HH) & **Hook & Eye (HE)	Jaw & Eye (JE)	Jaw & Jaw (JJ)
1/4 x 4	0404	8 1/4	0.3	0.3	0.4
5/16 x 4 1/2	0504	9 9/16	0.5	0.5	0.6
3/8 x 6	0606	11 7/8	0.8	0.9	0.9
1/2 x 6	0806	13 5/16	1.5	1.7	1.8
1/2 x 9	0809	16 5/16	1.9	2.0	2.1
1/2 x 12	0812	19 5/16	2.3	2.4	2.4
5/8 x 6	1006	15 1/2	2.5	2.8	3.0
5/8 x 9	1009	18 1/2	3.3	3.5	3.7
5/8 x 12	1012	21 1/2	3.8	4.0	4.2
3/4 x 6	1206	17	3.9	4.3	4.6
3/4 x 9	1209	20	4.8	5.1	5.4
3/4 x 12	1212	23	5.4	5.7	6.0
3/4 x 18	1218	29	7.0	7.3	7.7
7/8 x 12	1412	24 5/8	7.4	7.9	8.4
7/8 x 18	1418	30 5/8	9.6	10.2	10.7
1 x 6	1606	20 5/8	9.0	9.4	9.7
1 x 12	1612	26 5/8	11.2	11.6	11.9
1 x 18	1618	32 5/8	13.8	14.3	14.8
1 x 24	1624	38 5/8	17.1	17.6	18.2

\*\*When ordering, add style of turnbuckle (EE, HH, JE, HE, JJ) after numerical code to make complete ordering code.

†NOT AVAILABLE IN 1/4 INCH AND LARGER SIZES

**\*▲WARNING**

**TO AVOID INJURY:**

- Do not exceed working load limit.

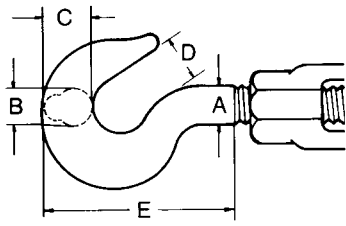
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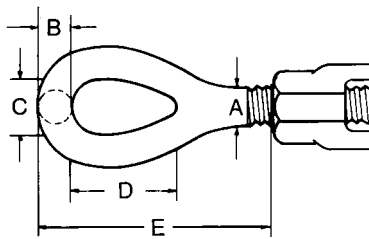
CM turnbuckle dimensions

HOOK



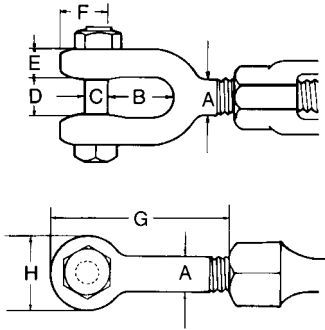
Dia. A (in.)	Working load limit (lbs.)*	Dimensions (inches)			
		B	C	D	E
1/4	400	1/4	13/32	29/64	1 21/32
5/16	700	5/16	1/2	1/2	1 31/32
3/8	1,000	3/8	39/64	9/16	2 23/64
1/2	1,500	1/2	25/32	21/32	2 15/16
5/8	2,250	5/8	1	27/32	3 11/16
3/4	3,000	3/4	1 13/64	63/64	4 33/64
7/8	4,000	7/8	1 3/8	1 1/8	5 3/16
1	5,000	1	1 17/32	1 1/4	5 27/32

EYE



Dia. A (in.)	Working load limit (lbs.)*	Dimensions (inches)			
		B	C	D	E
1/4	500	7/32	11/32	25/32	1 25/32
5/16	800	9/32	7/16	15/16	2 3/16
3/8	1,200	11/32	17/32	1 1/8	2 9/16
1/2	2,200	7/16	23/32	17/16	3 7/32
5/8	3,500	1/2	7/8	1 3/4	3 7/8
3/4	5,200	5/8	1	2 1/8	4 11/16
7/8	7,200	3/4	1 1/4	2 3/8	5 1/4
1	10,000	7/8	1 7/16	3	6 3/8

JAW



Dia. A (in.)	Working load limit (lbs.)*	Dimensions (inches)						
		B	C	D	E	F	G	H
1/4	500	5/8	1/4	13/32	9/32	1/2	15/8	5/8
5/16	800	7/8	1/4	15/32	9/32	1/2	2	1 1/16
3/8	1,200	7/8	5/16	1/2	5/16	19/32	2 3/16	1 3/16
1/2	2,200	1 1/16	3/8	5/8	13/32	3/4	2 3/4	1
5/8	3,500	1 5/16	1/2	3/4	1/2	1 1/32	3 1/2	1 5/16
3/4	5,200	1 1/2	5/8	15/16	9/16	1 9/32	4 1/8	1 5/8
7/8	7,200	1 3/4	3/4	1 1/8	11/16	1 15/32	4 27/32	1 7/8
1	10,000	2 1/16	7/8	1 3/16	25/32	1 21/32	5 17/32	2 1/8

Turnbuckles

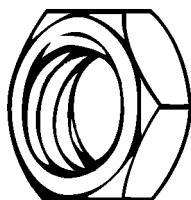
Do not exceed the working load limit.

Inspect turnbuckles before use for bent components and worn threads. Do not use if body or end fitting is bent more than 10° from axial center line. Do not use if threads are visibly worn or feel loose.

Apply turnbuckle in a straight in-line manner only. Do not allow anything to contact the turnbuckle body or end attachment threaded shanks.

Apply load to center of end attachment eyes and bowl of hooks. Do not tip load hooks or side load eyes.

Turnbuckle Lock Nuts



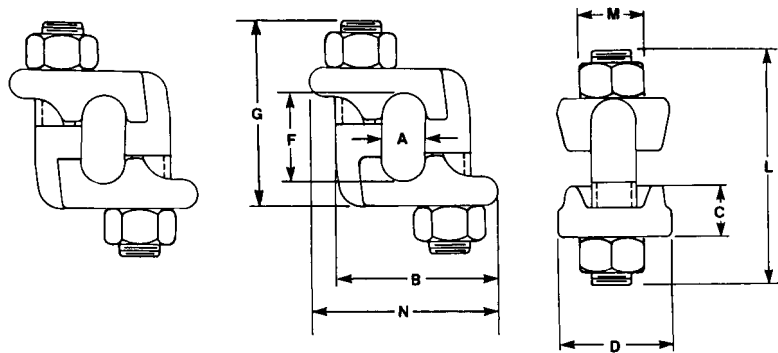
Size (in.)	Right hand nut part no.	Left hand nut part no.	(lbs.) 100
1/4	3X845	3X845L	.5
5/16	3X846	3X846L	.8
3/8	3X847	3X847L	1.0
1/2	3X849	3X849L	2.7
5/8	3X850	3X850L	5.0
3/4	3X851	3X851L	8.6
7/8	3X852	3X852L	13.0
1	3X853	3X853L	19.5
1 1/4	3X855	3X855L	41.0
1 1/2	3X866	3X866L	70.0

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**CM Big Orange Mid-Grip clips (double saddle)**

- Big Orange Mid-Grip wire rope clips meet Federal Specifications FF-C-450, Type III, Class 1, and will provide maximum holding strength when installed and used according to specifications.
- Double grip, double saddle wire rope clips allow full arc wrench swing for quicker installation, retightening or disassembly of nuts.
- Unlike U-bolt type rope clips, Mid-Grip clips cannot be installed incorrectly with the saddle not on the live rope end.
- Forged from special bar quality steel with the sizes clearly marked on the saddles.
- Hot galvanized with galvanized heavy hex nuts. When properly used, Big Orange Mid-Grip clips will give terminal efficiency ratings of approximately 80% of the catalog nominal strengths of new wire rope.
- Furnished unassembled in poly bags and in factory packs of 20.

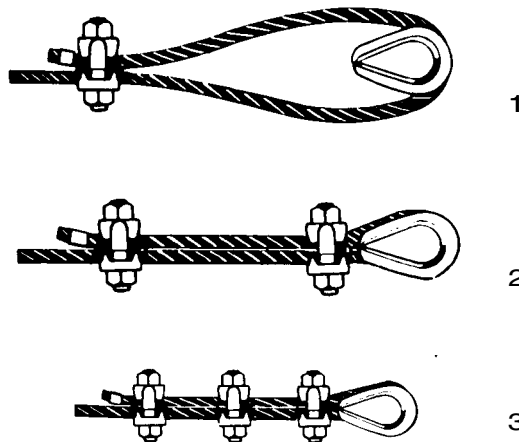


Size (in.)	Product code	UPC 43927-	Dimensions (inches)										Min. no. clips	Rope turn-back (in.)	Torque† (ft.-lbs.)	Weight per 100 (lbs.)
			A	B	C	D	Thd.	F	G	L approx.	M	N				
3/16 & 1/4	M2246	42462	.28	1.25	.34	.94	3/8-16	.50	1.28	1.56	.69	1.28	2	4	30	21
5/16	M2247	42466	.34	1.38	.44	1.06	3/8-16	.63	1.47	1.81	.69	1.41	2	5	30	27
3/8	M2248	42470	.41	1.56	.50	1.06	7/16-14	.75	1.81	2.31	.75	1.85	2	5 1/4	45	45
7/16	M2250	42474	.50	1.78	.56	1.25	1/2-13	1.00	2.19	2.75	.88	2.06	2	6 1/2	65	65
1/2	M2250	42474	.50	1.78	.56	1.25	1/2-13	1.00	2.19	2.75	.88	2.06	3	11	65	65
9/16	M2251	42478	.66	2.25	.69	1.50	5/8-11	1.25	2.69	3.31	1.06	2.59	3	12 3/4	130	113
5/8	M2251	42478	.66	2.25	.69	1.50	5/8-11	1.25	2.69	3.31	1.06	2.59	3	13 1/2	130	113
3/4	M2252	42483	.81	2.69	.88	1.81	3/4-10	1.50	2.94	3.44	1.25	3.06	3	16	225	170

†The tightening torque values shown are based upon the threads being clean, dry and free of lubrication.

**Proper use of Big Orange Mid-Grip clips:**

1. Refer to chart above in following these instructions. Turn back specified amount of rope from thimble or loop. Apply first clip one base width from dead end of rope. Tighten nuts evenly, alternating from one nut to the other until reaching the recommended torque.
2. When two clips are required, apply the second clip as near the loop or thimble as possible. Tighten nuts evenly, alternating until reaching the recommended torque. When more than two clips are required, apply the second clip as near the loop or thimble as possible, turn nuts on second clip firmly, but do not tighten. Proceed to Step 3.
3. When three or more clips are required, space additional clips between first two—take up rope slack—tighten nuts on all clips, alternating from one nut to the other until reaching the recommended torque.
4. Apply an initial load equal to loads expected in use. Inspect for proper spacing and retighten the nuts to the recommended torque.



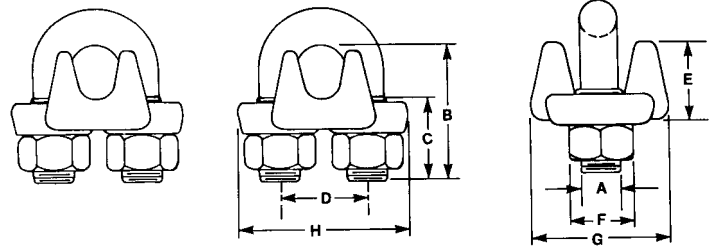
Refer to additional notes concerning wire rope clips on next page.

2

MEX (55) 53 63 23 31 MTY (81) 83 54 10 18  
 QRO (442) 1 95 72 60 ventas@industrialmagza.com  
**MAGZA**  
 INDUSTRIAL  
 DIST. AUTORIZADO

CM Big Orange drop forged wire rope clips

- Precision manufactured and galvanized to meet Federal Specifications FF-C-450, Type 1, Class 1, on all sizes 1/4" and larger. U-bolts and nuts electro-galvanized on 1/8" and 3/16" sizes, hot dip galvanized all other sizes. All bases hot dip galvanized.
- Drop forged base.
- Available in popular sizes.
- 1/8"-5/8" sizes packed unassembled, two pieces per poly bag and in factory packs.
- 3/4" and larger sizes shipped assembled in factory packs.



Size (in.)	Product code	UPC 43927-	Dimensions (inches)								Min. no. clips	Rope turn-back (in.)	Torque† (ft.-lbs.)	Weight per 100 (lbs.)	Factory pack
			A	B	C	D	E	F	G	H					
1/8	M244	42487	1/2-24	23/32	7/16	15/32	13/32	3/8	13/16	15/16	2	3 1/4	4 1/2	5	50
3/16	M245	42491	1/4-20	31/32	9/16	19/32	1/2	1/2	15/16	15/32	2	3 3/4	7 1/2	9	50
1/4	M246	42495	5/16-18	11/32	1/2	3/4	21/32	9/16	13/16	17/16	2	4 3/4	15	18	50
5/16	M247	42499	3/8-16	13/8	3/4	7/8	23/32	11/16	15/16	11 1/16	2	5 1/4	30	30	50
3/8	M248	42504	7/16-14	11/2	3/4	1	29/32	3/4	15/8	1 15/16	2	6 1/2	45	42	50
7/16	M249	42508	1/2-13	17/8	1	13/16	11/16	7/8	1 25/32	2 5/16	2	7	65	70	50
1/2	M250	42512	1/2-13	17/8	1	13/16	11/8	7/8	1 29/32	2 5/16	3	11 1/2	65	75	30
9/16	M296	42514	9/16-12	2 3/8	1 1/4	15/16	1 1/4	15/16	1 31/32	2 1/2	3	12	95	100	30
5/8	M251	42517	9/16-12	2 3/8	1 1/4	15/16	1 11/32	15/16	2	2 1/2	3	12	95	100	30
3/4	M252	42521	5/8-11	2 3/4	1 7/16	1 1/2	1 7/16	1 1/16	2 11/32	2 13/16	4	18	130	150	30
7/8	M253	42525	3/4-10	3 1/8	1 5/8	1 3/4	1 19/32	1 1/4	2 7/16	3 5/32	4	20	225	240	10
1	M254	42529	3/4-10	3 1/2	1 13/16	1 7/8	1 25/32	1 1/4	2 5/8	3 15/32	5	26	225	250	10
1 1/8	M255	42533	3/4-10	3 7/8	2	2	1 29/32	1 1/4	2 13/16	3 19/32	6	34	225	310	10
1 1/4	M256	42537	7/8-9	4 1/4	2 1/8	2 5/16	2 3/16	1 7/16	3 1/8	4 1/8	7	37	360	460	5
1 3/8	M257	42541	7/8-9	4 5/8	2 5/16	2 3/8	2 1/4	1 7/16	3 1/8	4 1/4	7	44	360	520	5
1 1/2	M258	42545	7/8-9	4 15/16	2 3/8	2 19/32	2 1/2	1 7/16	3 13/32	4 7/16	8	48	360	590	5

†The tightening torque values shown are based upon the threads being clean, dry and free of lubrication.

Proper use of CM Big Orange wire rope clips

CM Big Orange wire rope clips will provide maximum holding strength when used according to the specifications listed and following these instructions:

1. Refer to chart above in following these instructions. Turn back specified amount of rope from thimble or loop. Apply first clip one base width from dead end of rope. Apply U-bolt over dead end of wire rope—live end rests in saddle. Tighten nuts evenly, alternate from one nut to the other until reaching the recommended torque.
2. When two clips are required, apply the second clip as near the loop or thimble as possible. Tighten nuts evenly, alternating until reaching the recommended torque. When more than two clips are required, apply the second clip as near the loop or thimble as possible, turn nuts on second clips firmly, but do not tighten. Proceed to Step 3.
3. When three or more clips are required, space additional clips equally between the first two—take up rope slack—tighten nuts on each U-bolt evenly, alternating from one nut to the other until reaching the recommended torque.
4. Apply an initial load equal to loads expected in use. Inspect for proper orientation and spacing of clips and retighten the nuts to the recommended torque.

If a pulley (sheave) is used for rope turn back, add one additional clip.

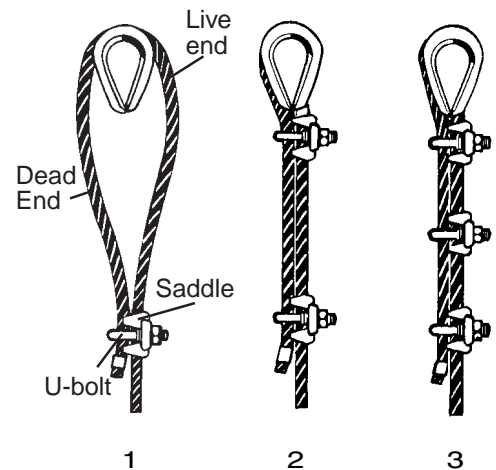
The number of clips shown is based upon using RRL or RLL wire rope, 6 x 19 or 6 x 37 Class, FC or IWRC, IPS or XIP. If Seale construction or similar outer wire type construction in the 6 x 19 Class is to be used for sizes 1" and larger, add one additional clip.

The number of clips shown also applies to rotation-resistant RRL wire rope, 8 x 19 Class, IP, XIP, sizes 1 1/2" and smaller, and to rotation-resistant RRL wire rope, 19 x 7 Class, IPS, XIP, sizes 1 1/2" and smaller.

For other classes of wire rope, additional clips may be necessary. Length of rope turn back should be increased when more clips are used.

Efficiency ratings for wire rope end terminations are based upon the breaking strength of wire rope. The efficiency rating of a properly prepared loop or thimble eye termination for clip sizes 1/8" through 7/8" is 80% and for sizes 1" through 1 1/2" is 90%.

In accordance with good rigging and maintenance practices, the wire rope end termination should be inspected periodically for wear, abuse and general adequacy.



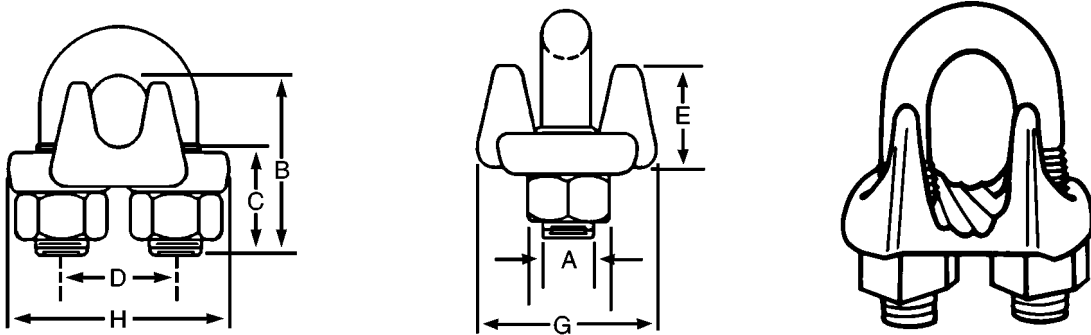
**\* ⚠ WARNING**

Improper installation and use of wire rope clips can result in injury.

**To avoid injury** install and use only as instructed herein.

**CM malleable wire rope clips—galvanized**

- For light duty non-critical applications only.
- Precision manufactured and galvanized to meet or exceed the performance requirement of Federal Specifications (FF-C-450 Type 1 Class 2).
- Imported



Size (in.)	Standard pack			Dimensions (inches)							Min. no. of clips	Turn back (in.)	Torque (ft.-lbs.)	Weight per 100 pieces (lbs.)
	Product code	UPC 43927-	Std. pack	A	B	C	D	E	G	H				
1/16	D86980	29365	100	10-24*	11/16	1/2	3/8	5/16	7/16	7/8	3	4	2	3
1/8	D86090	29370	100	10-24*	13/16	1/2	1/2	7/16	1/2	15/16	3	5	3	5
3/16	D86190	25378	100	1/4	31/32	5/8	9/16	1/2	9/16	11/16	3	6	5	8
1/4	D86290	34751	100	5/16	17/32	7/8	11/16	5/8	11/16	13/8	3	7	15	12
5/16	D86390	29371	100	5/16	17/32	7/8	11/16	11/16	11/16	13/8	3	8	15	15
3/8	D86490	29372	100	3/8	15/8	1	7/8	13/16	7/8	15/8	3	10	30	21
7/16	D86590	29373	50	3/8	15/8	1	7/8	13/16	15/16	15/8	4	10	40	25
1/2	D86690	30077	50	7/16	2	1 1/4	1	1 1/16	1	1 7/8	4	15	45	38
9/16	D86790	30078	50	1/2	2 5/16	1 15/32	1 3/16	1 3/16	1 1/8	2 3/16	4	16	50	41
5/8	D86890	30079	25	1/2	2 5/16	1 15/32	1 3/16	1 5/16	1 1/8	2 3/16	4	16	75	53
3/4	D86900	34749	25	9/16	2 9/16	1 3/4	1 11/32	1 1/2	1 1/4	2 7/16	5	22	75	76

\*UNC 2-4 Threads

Size (in.)	Shelf pack			Case qty. pcs.
	Product code	UPC 43927-	Shelf pack	
1/16	D87980	39010	25	400
1/8	D87090	39002	25	400
3/16	D87190	39001	25	400
1/4	D87290	39000	25	450
5/16	D87390	39012	25	450
3/8	D87490	39011	25	200
7/16	D87590	34752	10	180
1/2	D87690	35991	10	180

**▲WARNING**

Improper use and installation of malleable wire rope clips can result in injury.

**To avoid injury:**

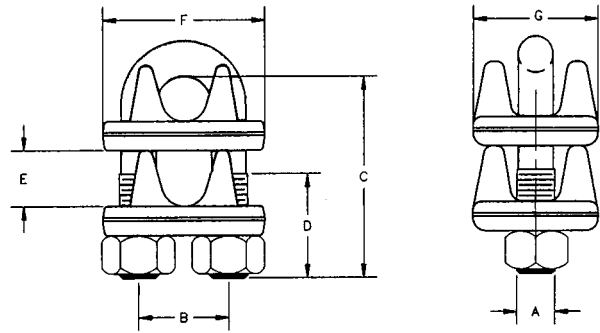
Do not use malleable clips for lifting or critical applications. Install and use malleable clips only as indicated in instructions that accompany clips.

## CM Big Orange PiggyBack Wedge Socket Clip

An easy way to secure the dead end of a wire rope on a wedge socket.

The new PiggyBack Clip is another Big Orange exclusive. Our revolutionary dual saddle design secures the dead end of a wire rope on a wedge socket and provides the following benefits:

- Attaches quickly and easily.
- Prevents load transfer to dead end rope.
- Eliminates need for short rope piece or loop on dead end.
- Properly secured dead end reduces possibility of snag/foul and shear off at wedge socket.
- Available in 3/8" to 1 1/2" sizes.
- Drop forged saddles.
- Application approved by OSHA.
- Hot dip galvanized, plus orange painted U-bolts.
- Patent 5,427,469 U.S. Class 403/396.



### CM Big Orange PiggyBack wedge socket clip specifications

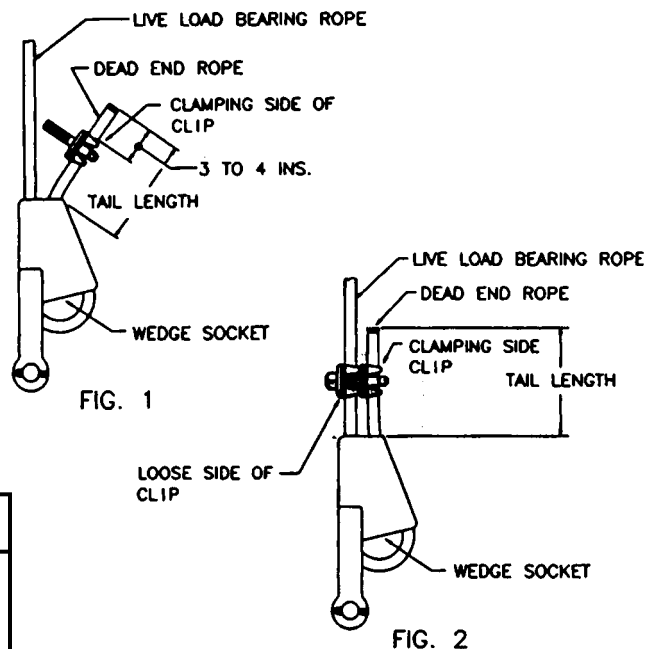
Size (in.)	Product code	UPC 43927-	Dimensions (inches)							Weight each (lbs.)	Min. tail (in.)	Torque (ft.-lbs.)*
			A	B	C	D	E	F	G			
3/8	M248D	45642	7/16-14UNC	1.00	2.38	1.00	.53	1.94	1.62	.8	6	45
7/16	M249D	45698	1/2-13UNC	1.19	2.62	1.00	.66	2.31	1.78	1.3	6	65
1/2	M250D	45570	1/2-13UNC	1.19	2.62	1.00	.72	2.31	1.91	1.4	6	65
9/16	M296D	45572	9/16-12UNC	1.31	3.19	1.25	.77	2.50	1.97	1.7	6	95
5/8	M251D	45574	9/16-12UNC	1.31	3.19	1.25	.81	2.50	2.00	1.7	6	95
3/4	M252D	45576	5/8-11UNC	1.50	3.50	1.50	.91	2.81	2.34	2.5	6	130
7/8	M253D	45578	3/4-10UNC	1.75	3.88	2.00	1.07	3.16	2.44	3.6	6	225
1	M254D	45580	3/4-10UNC	1.88	4.25	2.00	1.22	3.47	2.62	3.9	6	225
1 1/8	M255D	45582	3/4-10UNC	2.00	4.50	2.00	1.31	3.59	2.81	4.9	6 3/4	225
1 1/4	M256D	45584	7/8-9UNC	2.31	5.25	2.38	1.50	4.22	3.18	6.5	7 1/2	360
1 3/8	M257D	45586	7/8-9UNC	2.38	5.62	2.38	1.56	4.25	3.08	7.1	8 1/4	360
1 1/2	M258D	45588	7/8-9UNC	2.59	6.00	2.38	1.75	4.47	3.41	8.2	9	360

\*The tightening torque values shown are based upon the threads being clean, dry and free of lubrication.

**NOTE:** Rotation resistant rope may require longer tail length.

### Proper use of CM Big Orange PiggyBack Wedge Socket Clips

1. Dead end wire rope tail length should be at least 6 rope diameters, but not less than 6 inches beyond the wedge socket. Figure 1.
2. Apply U-bolt and first saddle on dead end rope and the second saddle on live end rope. Install nuts. Figures 1 & 2.
3. Position the dual saddle clip so that 3 to 4 inches of dead end rope remain beyond the clip. Figures 1 & 2.
4. Tighten nuts evenly. Alternate tightening each nut until reaching the required torque specified. Figure 2.
5. Check that clip does not pinch or clamp the live wire rope. Apply an initial test load equal to the loads expected in regular use. Be certain rope is secured properly in the wedge socket prior to any use.
6. Inspect for proper rope alignment with wedge socket and retighten the nuts to the specified torque.



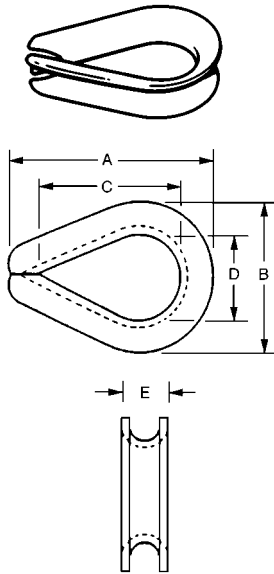
## WARNING

Improper installation and use of the wedge socket clip can result in bodily injury or property damage.

**To avoid injury** and damage, use only as a dead end clip in conjunction with a wedge socket as directed. Read and follow instructions.

**CM malleable wire rope thimbles—zinc plated**

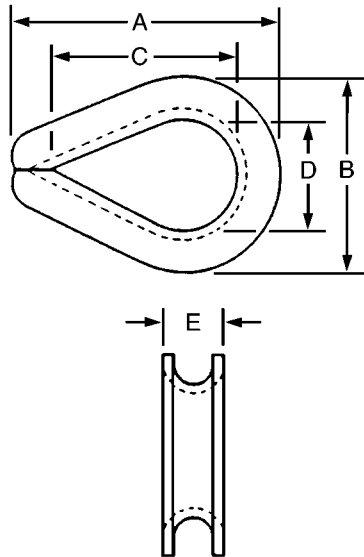
- Made according to Federal Specifications FF-T-276b Type 2.
- Imported.



Rope dia. (in.)	Standard pack			Dimensions (inches)					Approx. weight each (lbs.)
	Product code	UPC 43927-	Std. pack	A	B	C	D	E	
1/8	D86095	35993	100	1.94	1.06	1.31	.69	.25	.035
3/16	D86195	35994	100	1.94	1.06	1.31	.69	.31	.035
1/4	D86295	20320	100	1.94	1.06	1.31	.69	.38	.035
5/16	D86395	20321	100	2.13	1.25	1.50	.81	.44	.04
3/8	D86495	20322	50	2.38	1.47	1.63	.94	.53	.067
1/2	D86695	21820	50	2.75	1.75	1.88	1.13	.69	.125
5/8	D86895	21821	25	3.50	2.38	2.25	1.38	.91	.345

**CM heavy duty wire rope thimbles—hot galvanized**

- Made according to Federal Specifications FF-T-276b Type 3.
- Imported.



Rope dia. (in.)	Standard pack			Dimensions (inches)					Approx. weight each (lbs.)
	Product code	UPC 43927-	Std. pack	A	B	C	D	E	
1/4	D87296	22921	25	2.19	1.50	1.63	.88	.41	.075
5/16	D87396	22922	25	2.50	1.81	1.88	1.06	.50	.14
3/8	D87496	22923	25	2.88	2.13	2.13	1.13	.66	.25
1/2	D87696	22924	25	3.63	2.56	2.75	1.50	.84	.51
5/8	D87896	32328	10	4.25	3.00	3.25	1.75	1.00	.75
3/4	D87906	32329	10	5.00	3.50	3.75	2.00	1.25	1.47
7/8	D87916	32330	10	5.50	4.00	4.25	2.25	1.38	1.85

**▲ WARNING**

Improper use and installation of malleable wire rope clips can result in injury.

**To avoid injury:**

Do not use malleable clips for lifting or critical applications. Install and use malleable clips only as indicated in instructions that accompany clips.



## CM Big Orange attachments

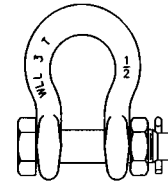
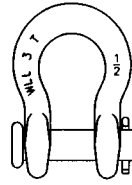
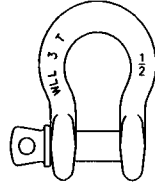
<b>Aircraft tie-down hooks .....</b>	<b>83</b>
<b>Claw hook.....</b>	<b>80</b>
<b>Clevis—farm, general purpose, utility, zinc plated .....</b>	<b>92-93</b>
<b>Clevis grab hooks.....</b>	<b>72-74</b>
<b>Clevis links.....</b>	<b>86-87</b>
<b>Clevis slip hooks.....</b>	<b>72-73 &amp; 75</b>
<b>Cold shut.....</b>	<b>85</b>
<b>Connecting link .....</b>	<b>86</b>
<b>D ring .....</b>	<b>87</b>
<b>Eye grab hooks.....</b>	<b>75-77</b>
<b>Eye slip hooks.....</b>	<b>76-78</b>
<b>Farm hardware merchandisers .....</b>	<b>94-96</b>
<b>Hitch pins .....</b>	<b>91</b>
<b>Hook latches .....</b>	<b>81</b>
<b>Load binders.....</b>	<b>88-90</b>
<b>Master link .....</b>	<b>87</b>
<b>Mid-link.....</b>	<b>86</b>
<b>Mid-link (chain connecting link) .....</b>	<b>92</b>
<b>Quick link .....</b>	<b>84</b>
<b>Repair link .....</b>	<b>84</b>
<b>Replacement hook.....</b>	<b>80</b>
<b>Replacement latch kit .....</b>	<b>81</b>
<b>Rigging eye hooks.....</b>	<b>78-79</b>
<b>“S” hook.....</b>	<b>85</b>
<b>Shackles.....</b>	<b>64-71</b>
<b>Shank hook .....</b>	<b>79</b>
<b>Snap hook .....</b>	<b>83</b>
<b>Sorting hook.....</b>	<b>83</b>
<b>Swivels .....</b>	<b>84</b>
<b>Swivel hook.....</b>	<b>80</b>
<b>T handle clevis pin .....</b>	<b>93</b>
<b>Tarphook .....</b>	<b>83</b>
<b>Tractor drawbar grab hook.....</b>	<b>92</b>
<b>Trek hook.....</b>	<b>84</b>
<b>Welded ring .....</b>	<b>85</b>



**CM super strong anchor shackles**

- These shackles have higher working load limits than specified by Federal Specifications.
- All shackle pins are forged from alloy steel, heat treated and tempered to give greater strength.
- All shackles are marked with size (inches and millimeters) and working load limit in tons.
- Ultimate strength equals 6 times working load limit. Proof load equals 2.2 times working load limit.
- All bolt, nut & cotter shackles have thread protected ends.
- When ordering, specify galvanized (G) or painted (P).
- Galvanized per ASTM A153.

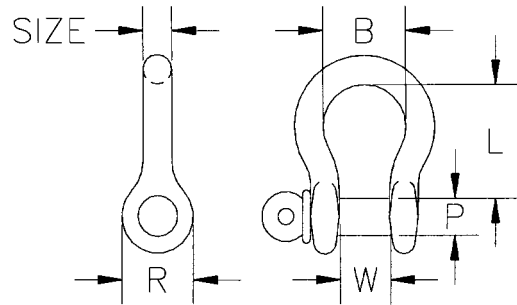
- Painted shackles are orange.
- Ton = 2,000 lbs. (¾" – 2"), 2,200 lbs. (2½" – 3½").
- Standard industry tolerances apply.
- Built-in Distortion Detectors (¾" – 2").



Size (in.)	Working load limit (tons)	Screw pin type			Round pin type			Bolt & nut type		
		Product code	Painted UPC 43927-	Galv. UPC 43927-	Product code	Painted UPC 43927-	Galv. UPC 43927-	Product code	Painted UPC 43927-	Galv. UPC 43927-
3/16	1/2	M645	—	40061	M345	—	40095	—	—	—
1/4	3/4	M646	40004	40062	M346	40100	40099	—	—	—
5/16	1	M647	40008	40064	M347	40105	40104	—	—	—
3/8	1 1/2	M648	40012	40066	M348	40110	40109	—	—	—
7/16	2	M649	40016	40068	M349	40115	40114	—	—	—
1/2	3	M650	40020	40070	M350	40120	40119	M850	40183	40182
5/8	4 1/2	M651	40023	40073	M351	40125	40124	M851	40186	40185
3/4	6 1/2	M652	40027	40074	M352	40130	40129	M852	40189	40188
7/8	8 1/2	M653	40031	40076	M353	40135	40134	M853	40192	40191
1	10	M654	40036	40077	M354	41950	40139	M854	40195	40194
1 1/8	12	M655	40039	40080	M355	40145	40144	M855	40198	40197
1 1/4	14	M656	40041	40082	M356	40150	40149	M856	40201	40200
1 3/8	17	M666	40044	40084	M366	40158	40157	M866	40204	40203
1 1/2	20	M657	40048	40087	M357	40164	40163	M857	40207	40206
1 5/8	24	M685	40052	40089	M385	40169	40168	M885	40210	40209
1 3/4	30	M677	40056	40091	M377	40175	40174	M877	40213	40212
2	35	M658	40060	40093	M358	40180	40179	M858	40216	40215

**Dimensions (inches) apply to all styles of anchor shackles**

Size	Dia. of pin P	Width between eyes W	Inside length L	Inside width at bow B (min.)	Outside dia. of eye R (max.)	Approx. weight each (lbs.)
3/16	1/4	3/8	7/8	5/8	5/8	.06
1/4	5/16	15/32	1 1/8	3/4	7/8	.12
5/16	3/8	17/32	1 1/4	13/16	1	.20
3/8	7/16	2 1/32	1 7/16	15/16	1 1/8	.30
7/16	1/2	3/4	1 11/16	1 1/16	1 1/4	.50
1/2	5/8	13/16	1 7/8	13/16	1 3/8	.75
5/8	3/4	1 1/16	2 3/8	1 1/2	1 7/8	1.3
3/4	7/8	1 1/4	2 13/16	1 3/4	2 1/8	2.3
7/8	1	1 7/16	3 5/16	2	2 3/8	3.5
1	1 1/8	1 11/16	3 3/4	2 5/16	2 5/8	5.0
1 1/8	1 1/4	1 13/16	4 1/4	2 5/8	2 7/8	7.0
1 1/4	1 3/8	2 1/32	4 11/16	2 7/8	3 1/4	9.5
1 3/8	1 1/2	2 1/4	5 1/4	3 1/4	3 1/2	12.5
1 1/2	1 5/8	2 3/8	5 3/4	3 3/8	3 3/4	17.2
1 5/8	1 3/4	2 5/8	6 1/4	4	4 1/8	23.5
1 3/4	2	2 7/8	7	4 1/2	4 1/2	27.7
2	2 1/4	3 1/4	7 3/4	5 1/4	5 1/4	39.0



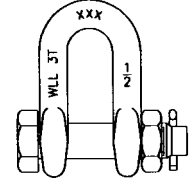
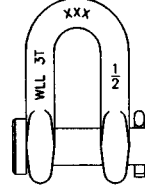
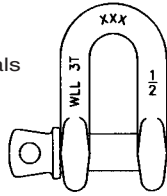
3

MEX (55) 53 63 23 31 MTY (81) 83 54 10 18  
 QRO (442) 1 95 72 60 ventas@industrialmagza.com  
**INDUSTRIAL MAGAZA**  
 DIST. AUTORIZADO



**CM super strong chain shackles**

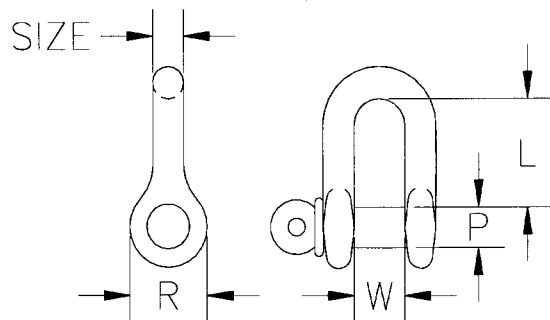
- These shackles have higher working load limits than specified by Federal Specifications.
- All shackle pins are forged from alloy steel, heat treated and tempered to give greater strength.
- All shackles are marked with size (inches and millimeters) and working load limit in tons.
- Ultimate strength equals 6 times working load limit. Proof load equals 2.2 times working load limit.
- All bolt, nut & cotter shackles have thread protected ends.
- When ordering, specify galvanized (G) or painted (P).
- Galvanized per ASTM A153.
- Painted shackles are orange.
- Ton = 2,000 lbs.
- Standard industry tolerances apply.



Size (in.)	Working load limit (tons)	Screw pin type			Round pin type			Bolt & nut type		
		Product code	Painted UPC 43927-	Galv. UPC 43927-	Product code	Painted UPC 43927-	Galv. UPC 43927-	Product code	Painted UPC 43927-	Galv. UPC 43927-
1/4	3/4	M746	40220	40277	M546	40304	40303	—	—	—
5/16	1	M747	40224	40278	M547	40310	40309	—	—	—
3/8	1 1/2	M748	40227	40279	M548	40316	40315	—	—	—
7/16	2	M749	40231	40280	M549	40322	40321	—	—	—
1/2	3	M750	40235	40281	M550	40328	40327	M950	40388	40387
5/8	4 1/2	M751	40239	40282	M551	40334	40333	M951	40391	40390
3/4	6 1/2	M752	40243	40283	M552	40340	40339	M952	40394	40393
7/8	8 1/2	M753	40247	40284	M553	41949	40344	M953	40397	40396
1	10	M754	40251	40285	M554	40350	40349	M954	40400	40399
1 1/8	12	M755	40254	40289	M555	40355	40354	M955	40403	40402
1 1/4	14	M756	40257	40287	M556	40360	40359	M956	40406	40405
1 3/8	17	M766	40261	40291	M566	40365	40364	M966	40409	40408
1 1/2	20	M757	40264	40293	M557	40370	40369	M957	40412	40411
1 5/8	24	M785	40268	40295	M585	40375	40374	M985	40415	40414
1 3/4	30	M777	40272	40297	M577	40380	40379	M977	40418	40417
2	35	M758	40276	40299	M558	40385	40384	M958	40421	40420

**Dimensions (inches) apply to all styles of chain shackles**

Size	Dia. of pin P	Width between eyes W	Inside length L	Outside dia. of eye R (max.)	Approx. weight each (lbs.)
1/4	5/16	15/32	1 1/8	7/8	.12
5/16	3/8	17/32	1 1/4	1	.20
3/8	7/16	21/32	1 7/16	1 1/8	.30
7/16	1/2	3/4	1 11/16	1 1/4	.50
1/2	5/8	13/16	1 7/8	1 3/8	.75
5/8	3/4	1 1/16	2 3/8	1 7/8	1.3
3/4	7/8	1 1/4	2 13/16	2 1/8	2.3
7/8	1	1 7/16	3 5/16	2 3/8	3.5
1	1 1/8	1 11/16	3 3/4	2 5/8	5.0
1 1/8	1 1/4	1 13/16	4 1/4	2 7/8	7.0
1 1/4	1 3/8	2 1/32	4 11/16	3 1/4	9.5
1 3/8	1 1/2	2 1/4	5 1/4	3 1/2	12.5
1 1/2	1 5/8	2 3/8	5 3/4	3 3/4	17.2
1 5/8	1 3/4	2 5/8	6 1/4	4 1/8	23.5
1 3/4	2	2 7/8	7	4 1/2	27.7
2	2 1/4	3 1/4	7 3/4	5 1/4	39.0



**\* ⚠ WARNING**

TO AVOID INJURY:

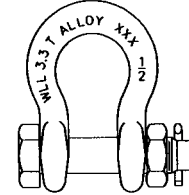
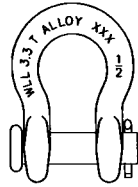
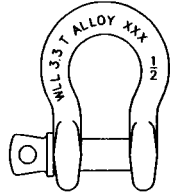
- Do not exceed working load limit.



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CM alloy steel anchor shackles

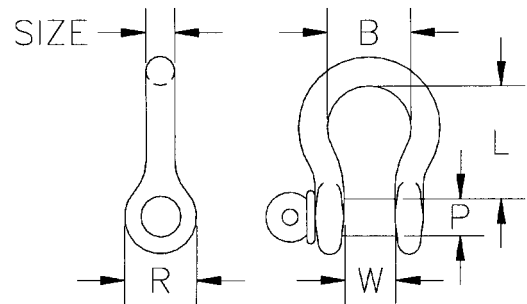
- These galvanized shackles meet all requirements of Federal Specification RR-C-271D Amendment 1 except as noted.
  - All shackle bodies and pins are forged from alloy steel, heat treated and tempered to give greater strength and abrasion resistance.
  - All shackles are marked with size (inches and millimeters) and working load limit in tons.
  - Ultimate strength equals 5 times working load limit. Proof load equals 2.2 times working load limit.
  - All bolt, nut & cotter shackles have thread protected ends and are 100% proof tested.
  - When ordering, specify galvanized (G) or painted (P).
  - Galvanized per ASTM A153.
  - Painted shackles are orange.
  - Ton = 2,000 lbs. (3/8" – 2"), 2,200 lbs. (2 1/2" – 3 1/2").
  - Standard industry tolerances apply.
  - Built-in Distortion Detectors (3/8" – 2").
  - 2 1/2" – 3 1/2" Shackles may be imported.
  - Round pin type available on request.
- \* = These shackles do not meet Federal Specification RR-C-271D Amendment 1.



Size (in.)	Working load limit (tons)	Screw pin type			Round pin type			Bolt & nut type			
		Product code	Painted UPC 43927-	Galv. UPC 43927-	Product code	Painted UPC 43927-	Galv. UPC 43927-	Working load limit (tons)	Product code	Painted UPC 43927-	Galv. UPC 43927-
3/8	2	M648A	40433	40499	—	—	—	—	—	—	—
7/16	2 5/8	M649A	40440	40501	—	—	—	—	—	—	—
1/2	3 1/3	M650A	40447	40503	M350A	46081	45046	3 1/3	M850A	40553	40552
5/8	5	M651A	40454	40505	M351A	46083	46103	5	M851A	40556	40555
3/4	7	M652A	40459	40507	M352A	46085	46104	7	M852A	40559	40558
7/8	9 1/2	M653A	40464	40509	M353A	46087	46105	9 1/2	M853A	40562	40561
1	12 1/2	M654A	40469	40511	M354A	46089	44321	12 1/2	M854A	40565	40564
1 1/8	15	M655A	40473	40513	M355A	46091	46237	15	M855A	40568	40567
1 1/4	18	M656A	40477	40515	M356A	46093	44982	8	M856A	40571	40570
1 3/8	21	M666A	40481	40517	M366A	46099	44911	21	M866A	40574	40573
1 1/2	25	M657A*	40485	40519	M357A*	46095	46079	30	M857A	40577	40576
1 5/8	29	M685A*	40489	40488	M385A*	46106	45072	35	M885A	40580	40579
1 3/4	34	M677A*	40493	40523	M377A*	46101	45300	40	M877A	40583	40582
2	43	M658A*	40497	40525	M358A*	46097	44983	50	M858A	40586	40517
2 1/2	—	—	—	—	—	—	—	80	M860AG*	—	45763
3	—	—	—	—	—	—	—	110	MC862AG	—	46305
3 1/2	—	—	—	—	—	—	—	140	M864AG*	—	45767

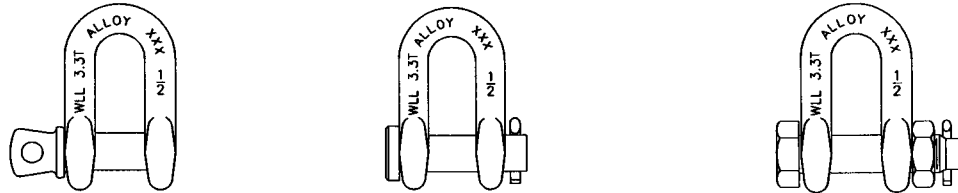
Dimensions (inches) apply to all styles of anchor shackles

Size	Dia. of pin P	Width between eyes W	Inside length L	Inside width at bow B (min.)	Outside dia. of eye R (max.)	Approx. weight each (lbs.)
3/8	7/16	2 1/32	1 7/16	1 5/16	1 1/8	.30
7/16	1/2	3/4	1 11/16	1 1/16	1 1/4	.50
1/2	5/8	13/16	1 7/8	1 3/16	1 3/8	.75
5/8	3/4	1 1/16	2 3/8	1 1/2	1 7/8	1.3
3/4	7/8	1 1/4	2 13/16	1 3/4	2 1/8	2.3
7/8	1	1 7/16	3 5/16	2	2 3/8	3.5
1	1 1/8	1 11/16	3 3/4	2 5/16	2 5/8	5.0
1 1/8	1 1/4	1 13/16	4 1/4	2 5/8	2 7/8	7.0
1 1/4	1 3/8	2 1/32	4 11/16	2 7/8	3 1/4	9.5
1 3/8	1 1/2	2 1/4	5 1/4	3 1/4	3 1/2	12.5
1 1/2	1 5/8	2 3/8	5 3/4	3 3/8	3 3/4	17.2
1 5/8	1 3/4	2 5/8	6 1/4	4	4 1/8	23.5
1 3/4	2	2 7/8	7	4 1/2	4 1/2	27.7
2	2 1/4	3 1/4	7 3/4	5 1/4	5 1/4	39.0
2 1/2	2 3/4	4 1/4	10 1/2	6 3/4	6 1/4	90.0
3	3 1/4	5	13	7 3/8	6 3/4	137.0
3 1/2	3 3/4	5 3/4	15	9	8 1/2	242.0



**CM alloy steel chain shackles**

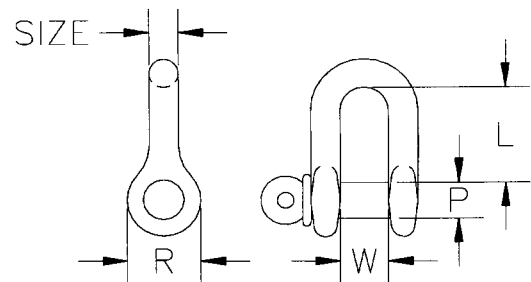
- These galvanized shackles meet all requirements of Federal Specification RR-C-271D Amendment 1 except as noted.
  - All shackle bodies and pins are forged from alloy steel, heat treated and tempered to give greater strength and abrasion resistance.
  - All shackles are marked with size (inches and millimeters) and working load limit in tons.
  - Ultimate strength equals 5 times working load limit. Proof load equals 2.2 times working load limit.
  - All bolt, nut & cotter shackles have thread protected ends.
  - When ordering, specify galvanized (G) or painted (P).
  - Galvanized per ASTM A153.
  - Painted shackles are orange.
  - Ton = 2,000 lbs.
  - Standard industry tolerances apply.
  - Availability on request.
- \* = These shackles do not meet Federal Specification RR-C-271D Amendment 1.



Size (in.)	Working load limit (tons)	Screw pin type			Round pin type			Bolt & nut type			
		Product code	Painted UPC 43927-	Galv. UPC 43927-	Product code	Painted UPC 43927-	Galv. UPC 43927-	Working load limit (tons)	Product code	Painted UPC 43927-	Galv. UPC 43927-
3/8	2	M748A	46112	46113	—	—	—	—	—	—	—
7/16	2 5/8	M749A	46128	46116	—	—	—	—	—	—	—
1/2	3 1/3	M750A	46118	46119	M550A	46149	44965	3 1/3	M950A	46173	44964
5/8	5	M751A	46121	45056	M551A	46151	44328	5	M951A	46175	44904
3/4	7	M752A	46124	44349	M552A	46153	44329	7	M952A	46177	46227
7/8	9 1/2	M753A	46127	44395	M553A	46155	46231	9 1/2	M953A	46179	45380
1	12 1/2	M754A	46130	46122	M554A	46157	46232	12 1/2	M954A	46181	45386
1 1/8	15	M755A	46132	45723	M555A	46159	46233	15	M955A	46183	46228
1 1/4	18	M756A	46134	45513	M556A	46161	46234	8	M956A	46185	45942
1 3/8	21	M766A	46139	46226	M566A	46167	46235	21	M966A	46191	46229
1 1/2	25	M757A*	46136	45155	M557A*	46163	46236	30	M957A	46187	44355
1 5/8	29	M785A*	46144	45690	M585A*	46171	44908	35	M985A	46195	46230
1 3/4	34	M777A*	46142	46125	M577A*	46169	44330	40	M977A	46193	44397
2	43	M758A*	46138	44350	M558A*	46165	44381	50	M958A	46189	45292

**Dimensions (inches) apply to all styles of chain shackles**

Size	Dia. of pin P	Width between eyes W	Inside length L	Outside dia. of eye R (max.)	Approx. weight each (lbs.)
3/8	7/16	2 1/32	1 7/16	1 1/8	.30
7/16	1/2	3/4	1 11/16	1 1/4	.50
1/2	5/8	13/16	1 7/8	1 3/8	.75
5/8	3/4	1 1/16	2 3/8	1 7/8	1.3
3/4	7/8	1 1/4	2 13/16	2 1/8	2.3
7/8	1	1 7/16	3 5/16	2 3/8	3.5
1	1 1/8	1 11/16	3 3/4	2 5/8	5.0
1 1/8	1 1/4	1 13/16	4 1/4	2 7/8	7.0
1 1/4	1 3/8	2 1/32	4 11/16	3 1/4	9.5
1 3/8	1 1/2	2 1/4	5 1/4	3 1/2	12.5
1 1/2	1 5/8	2 3/8	5 3/4	3 3/4	17.2
1 5/8	1 3/4	2 5/8	6 1/4	4 1/8	23.5
1 3/4	2	2 7/8	7	4 1/2	27.7
2	2 1/4	3 1/4	7 3/4	5 1/4	39.0



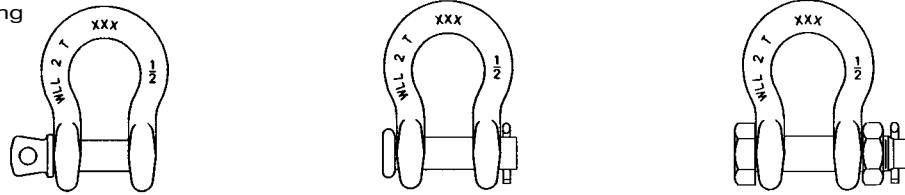
**\* ⚠ WARNING**

TO AVOID INJURY:

- Do not exceed working load limit.

CM industrial/government rated anchor shackles

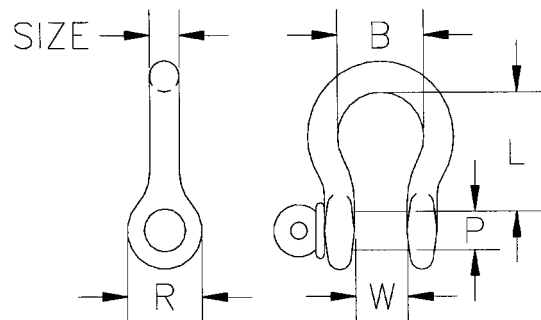
- These shackles meet requirements of Federal Specification RR-C-271D Amendment 1.
- All shackle pins are forged from alloy steel, heat treated and tempered to give greater strength.
- All shackles are marked with size (inches and millimeters) and working load limit in tons.
- Ultimate strength equals 5 times working load limit. Proof load equals 2.2 times working load limit.
- All bolt, nut & cotter shackles have thread protected ends.
- Galvanized per ASTM A153.
- Ton = 2,000 lbs.
- Standard industry tolerances apply.
- 2½" – 3½" Shackles may be imported – Ultimate strength equals 5 times working load limit.



Size (in.)	Working load limit (tons)	Screw pin type		Round pin type		Bolt & nut type	
		Product code	Galv. UPC 43927-	Product code	Galv. UPC 43927-	Product code	Galv. UPC 43927-
3/16	1/3	MC645G	45390	MC345G	46252	—	—
1/4	1/2	MC646G	45809	MC346G	46253	—	—
5/16	3/4	MC647G	45393	MC347G	46254	—	—
3/8	1	MC648G	45810	MC348G	46255	—	—
7/16	1½	MC649G	45811	MC349G	46256	—	—
1/2	2	MC650G	45812	MC350G	46257	MC850G	45861
5/8	3¼	MC651G	45813	MC351G	46258	MC851G	45862
3/4	4¾	MC652G	45814	MC352G	46259	MC852G	45863
7/8	6½	MC653G	45815	MC353G	46260	MC853G	45864
1	8½	MC654G	45816	MC354G	46261	MC854G	45865
1 1/8	9½	MC655G	45817	MC355G	46262	MC855G	45866
1 1/4	12	MC656G	45818	MC356G	45403	MC856G	45404
1 3/8	13½	MC666G	45819	MC366G	45407	MC866G	45408
1 1/2	17	MC657G	45396	MC357G	45411	MC857G	45412
1 5/8	20	MC685G	45820	MC385G	46263	MC885G	46245
1 3/4	25	MC677G	45400	MC377G	45415	MC877G	45416
2	35	M658G	40093	M358G	40179	M858G	40215
2 1/2	55	—	—	—	—	M860G	45762
3	85	—	—	—	—	M862G	45764
3 1/2	120	—	—	—	—	M864G	45766

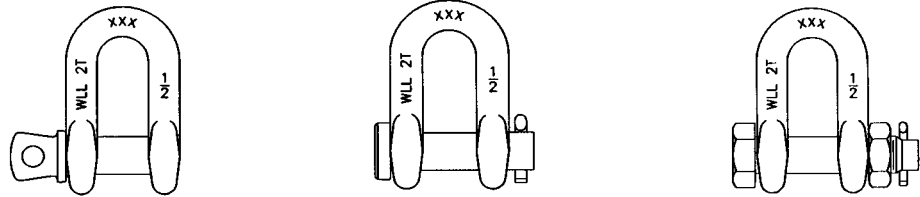
Dimensions (inches) apply to all styles of anchor shackles

Size	Dia. of pin P	Width between eyes W	Inside length L	Inside width at bow B (min.)	Outside dia. of eye R (max.)	Approx. weight each (lbs.)
3/16	1/4	3/8	7/8	5/8	5/8	.06
1/4	5/16	15/32	1 1/8	3/4	7/8	.12
5/16	3/8	17/32	1 1/4	13/16	1	.20
3/8	7/16	21/32	1 7/16	15/16	1 1/8	.30
7/16	1/2	3/4	1 11/16	1 1/16	1 1/4	.50
1/2	5/8	13/16	1 7/8	1 3/16	1 3/8	.75
5/8	3/4	1 1/16	2 3/8	1 1/2	1 7/8	1.3
3/4	7/8	1 1/4	2 13/16	1 3/4	2 1/8	2.3
7/8	1	1 7/16	3 5/16	2	2 3/8	3.5
1	1 1/8	1 11/16	3 3/4	2 5/16	2 5/8	5.0
1 1/8	1 1/4	1 13/16	4 1/4	2 5/8	2 7/8	7.0
1 1/4	1 3/8	2 1/32	4 11/16	2 7/8	3 1/4	9.5
1 3/8	1 1/2	2 1/4	5 1/4	3 1/4	3 1/2	12.5
1 1/2	1 5/8	2 3/8	5 3/4	3 3/8	3 3/4	17.2
1 5/8	1 3/4	2 5/8	6 1/4	4	4 1/8	23.5
1 3/4	2	2 7/8	7	4 1/2	4 1/2	27.7
2	2 1/4	3 1/4	7 3/4	5 1/4	5 1/4	39.0
2 1/2	2 3/4	4 1/4	10 1/2	6 3/4	6 1/4	90.0
3	3 1/4	5	13	7 3/8	6 3/4	137.0
3 1/2	3 3/4	5 3/4	15	9	8 1/2	242.0



**CM industrial/government rated chain shackles**

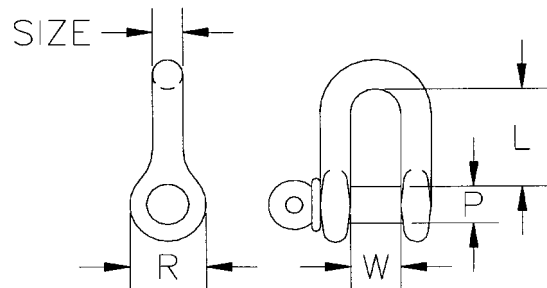
- These shackles meet requirements of Federal Specification RR-C-271D Amendment 1.
- All shackle pins are forged from alloy steel, heat treated and tempered to give greater strength.
- All shackles are marked with size (inches and millimeters) and working load limit in tons.
- Ultimate strength equals 5 times working load limit. Proof load equals 2.2 times working load limit.
- All bolt, nut & cotter shackles have thread protected ends.
- Galvanized per ASTM A153.
- Ton = 2,000 lbs.
- Standard industry tolerances apply.



Size (in.)	Working load limit (tons)	Screw pin type		Round pin type		Bolt & nut type	
		Product code	Galv. UPC 43927-	Product code	Galv. UPC 43927-	Product code	Galv. UPC 43927-
1/4	1/2	MC746G	45419	MC546G	45422	—	—
5/16	3/4	MC747G	45425	MC547G	45428	—	—
3/8	1	MC748G	45431	MC548G	45434	—	—
7/16	1 1/2	MC749G	45437	MC549G	45440	—	—
1/2	2	MC750G	46238	MC550G	45444	MC950G	46246
5/8	3 1/4	MC751G	46239	MC551G	46264	MC951G	46247
3/4	4 3/4	MC752G	46240	MC552G	46265	MC952G	46248
7/8	6 1/2	MC753G	46241	MC553G	45448	MC953G	46249
1	8 1/2	MC754G	46242	MC554G	45451	MC954G	46250
1 1/8	9 1/2	MC755G	45454	MC555G	45457	MC955G	45458
1 1/4	12	MC756G	46243	MC556G	45461	MC956G	45462
1 3/8	13 1/2	MC766G	45465	MC566G	45468	MC966G	45469
1 1/2	17	MC757G	45472	MC557G	45475	MC957G	45476
1 5/8	20	MC785G	46244	MC585G	46266	MC985G	46251
1 3/4	25	MC777G	45480	MC577G	45483	MC977G	45484
2	35	M758G	40299	M558G	40384	M958G	40420

**Dimensions (inches) apply to all styles of chain shackles**

Size	Dia. of pin P	Width between eyes W	Inside length L	Outside dia. of eye R (max.)	Approx. weight each (lbs.)
1/4	5/16	15/32	1 1/8	7/8	.12
5/16	3/8	17/32	1 1/4	1	.20
3/8	7/16	21/32	1 7/16	1 1/8	.30
7/16	1/2	3/4	1 11/16	1 1/4	.50
1/2	5/8	13/16	1 7/8	1 3/8	.75
5/8	3/4	1 1/16	2 3/8	1 7/8	1.3
3/4	7/8	1 1/4	2 13/16	2 1/8	2.3
7/8	1	1 7/16	3 5/16	2 3/8	3.5
1	1 1/8	1 11/16	3 3/4	2 5/8	5.0
1 1/8	1 1/4	1 13/16	4 1/4	2 7/8	7.0
1 1/4	1 3/8	2 1/32	4 11/16	3 1/4	9.5
1 3/8	1 1/2	2 1/4	5 1/4	3 1/2	12.5
1 1/2	1 5/8	2 3/8	5 3/4	3 3/4	17.2
1 5/8	1 3/4	2 5/8	6 1/4	4 1/8	23.5
1 3/4	2	2 7/8	7	4 1/2	27.7
2	2 1/4	3 1/4	7 3/4	5 1/4	39.0



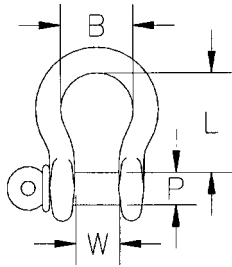
**\* ⚠ WARNING**

TO AVOID INJURY:

- Do not exceed working load limit.

**Dixie anchor shackles with screw pin**

- Commercial grade
- Hot galvanized
- Imported

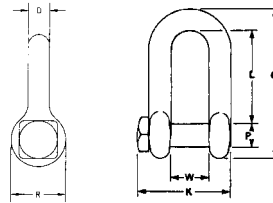
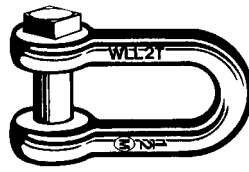


Size dia. D (in.)	Working load limit (tons)*	Product code	Std. pack	Dimensions (inches)				Approx. weight each (lbs.)
				Dia. of pin P	Width between eyes W	Inside length L	Inside width at bow B (min.)	
3/16	1/4	07722	25	15/64	21/64	15/16	5/8	1.1
1/4	1/3	07723	25	19/64	1/2	15/32	25/32	2.1
5/16	1/2	07724	25	3/8	15/32	1 1/8	13/16	3.2
3/8	3/4	07725	25	15/32	5/8	127/64	11/32	4.9
1/2	1 1/2	07726	25	5/8	25/32	157/64	19/32	9.2

Ton = 2,000 lbs.

**CM trawling shackle**

- Heat treated bodies.
- Heat treated alloy pins.
- Square head pins for convenience in wrench tightening and loosening.
- Proof load 2.2 times working load limit.
- Ultimate strength 6 times working load limit.
- Painted orange.

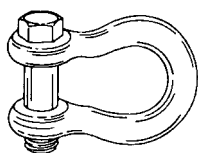


Size dia. D (in.)	Working load limit (tons)*	Product code	UPC 43927-	Dimensions (inches)						Tolerance plus or minus		Approx. weight each (lbs.)
				P	W	L	O	R	K	L	W	
1/2	3	M450	40593	5/8	13/16	111/16	3 1/8	1 1/4	2 1/16	1/16	1/16	.6
5/8	4 1/2	M451	40594	3/4	1 1/16	2	3 13/16	1 1/2	2 5/8	1/8	1/16	1.3
3/4	6 1/2	M452	40595	7/8	1 1/4	2 3/8	4 7/16	1 7/8	3 1/8	1/4	1/16	2.2
7/8	8 1/2	M453	40596	1	1 7/16	2 13/16	5 5/16	2 1/8	3 5/8	1/4	1/16	3
1	10	M454	40597	1 1/8	1 11/16	3 3/16	6	2 3/8	4 3/16	1/4	1/16	4.5

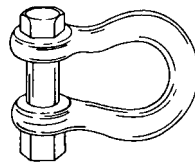
Ton = 2,000 lbs.

**CM kiln shackle**

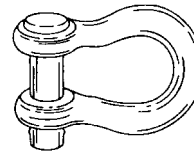
- Available in carbon steel, alloy steel or stainless steels. State grade.
- Various shackle closures available (loose pin for welding; hex head screw pin; bolt and full nut).
- All shackle pins available in three (3) diameters in match with type of service.
- Bodies and pins available separately.
- General usage: Carbon steel—up to 750°F. Alloy steel—750°F to 1000°F. Stainless steel—1000°F and up.
- Carbon and alloy steels can be heat treated to your specification (400 BHN max.).
- Minor modifications to dimensions W, L and B can be made at your request.
- Special shackle designs quoted at your request.



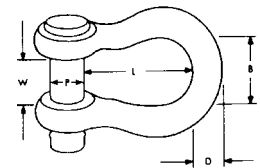
Hex head screw pin



Full nut & bolt



Loose pin



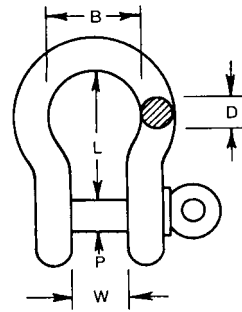
Diameter of pin P	Width between eyes W	Inside length L	Inside width at bow B	Outside diameter of eye	Tolerance plus or minus		Approx. weight each (lbs.)
					L	W	
3/4	1 1/4	3	2	17/8	1/4	1/16	2.25
7/8	1 1/4	3	2	17/8	1/4	1/16	2.25
5/8	1 1/4	3	2	17/8	1/4	1/16	2.25
7/8	17/16	3 1/4	2 5/16	2 1/8	1/4	1/16	3.50
1	17/16	3 1/4	2 5/16	2 1/8	1/4	1/16	3.50
3/4	17/16	3 1/4	2 5/16	2 1/8	1/4	1/16	3.50
1	1 11/16	3 3/4	2 9/16	2 3/8	1/4	1/16	5.00
1 1/8	1 11/16	3 3/4	2 9/16	2 3/8	1/4	1/16	5.00
7/8	1 11/16	3 3/4	2 9/16	2 3/8	1/4	1/16	5.00
1 1/8	1 13/16	4 1/4	2 15/16	2 5/8	1/4	1/16	7.00
1 1/4	1 13/16	4 1/4	2 15/16	2 5/8	1/4	1/16	7.00
1	1 13/16	4 1/4	2 15/16	2 5/8	1/4	1/16	7.00

When ordering, specify carbon, alloy or stainless steel (state grade), whether screw pin, nut and bolt or loose pin is required, plus body and pin diameters. Also, state whether you require complete shackles, body only or pin only.

All items self colored unless otherwise specified.

**CM stainless steel screw pin anchor shackle**

- Drop forged using 304 stainless steel material.
- Non-magnetic and corrosion resistant.
- Permanently marked with raised characters for identification, “NM” or “SS” stainless steel.
- Polished for improved appearance and to enhance corrosion and chemical resistance.
- Proof load is 2 times working load limit. Ultimate load is 5 times working load limit.

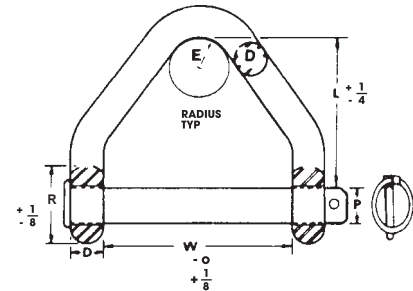
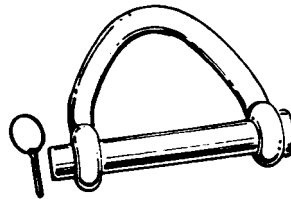


Working load limit (lbs.) min.*	Product code	UPC 43927-	Dimensions (inches)					Approx. weight each (lbs.)
			Size D	Pin P	W	L	B	
720	M646S	40424	1/4	5/16	15/32	11/8	13/16	.10
1,060	M647S	40427	5/16	3/8	17/32	11/4	7/8	.16
1,600	M648S	40434	3/8	7/16	21/32	17/16	11/16	.31
2,200	M649S	40441	7/16	1/2	23/32	111/16	11/4	.50
2,800	M650S	40448	1/2	5/8	13/16	115/16	17/16	.72
4,400	M651S	40455	5/8	3/4	11/16	2 13/32	13/4	1.38

NOTE: Normal shackle tolerances apply.

**CM web sling shackle**

- Finish: hot dip galvanized.
- Klik pin (zinc plated) as shown furnished as standard—cotter or hair pin can be furnished on special order.
- Shackle body: carbon steel, heat treated.
- Shackle pin: alloy steel, heat treated.
- Tolerances:  $\pm 1/32$ " unless otherwise indicated.
- Design ultimate strength equals 4 times the working load limit.



Webbing width (in.)	Working load limit (lbs.)*	Shackle			KLIK pin code	Dimensions (inches)						Approx. weight each (lbs.)
		Product code	UPC 43927-	Shackle		W	L	D	P	R	Radius E	
2	8,050	M702	40600		333001	2	2 1/4	5/8	3/4	15/8	5/8	1.70
3	13,050	M703	40603		333001	3	3 1/4	3/4	7/8	17/8	3/4	2.86
4	10,800	M704	40606		333001	4	3 3/4	3/4	7/8	17/8	7/8	3.15
5	18,000	M705	40609		333002	5	4 1/4	7/8	1	2 1/8	7/8	4.75
6	18,000	M706	40614		333002	6	4 3/4	1	1 1/8	2 3/8	1	6.75
6	23,850	M706H heavy duty	40615		333002	6	4 3/4	1 1/8	1 1/4	2 5/8	1	9.80

**\* ⚠ WARNING**

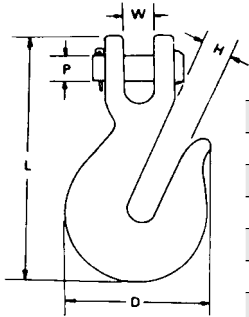
TO AVOID INJURY:

- Do not exceed working load limit.

**CM high test clevis type chain hook**

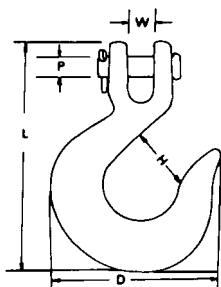
- Attach directly to welded chain—no connecting links to buy.
- Heat treated pins.
- Extra deep throat.
- Made for use on all high test chain (grade 43) and proof coil (grade 30).
- Hooks have a clear protective finish to resist rust and for cleaner handling.
- Hooks available with bright zinc finish.
- “High test” forged on every hook.
- Carbon hooks have clear dip bodies with orange pins.

**Dixie clevis grab hook—grade 30**



Hook size (in.)	Working load limit (lbs.)*	Clear finish industrial pack		Zinc plated industrial pack		Pack	Dimensions (inches)					Approx. weight each (lbs.)
		Product code	UPC 81767-	Product code	UPC 81767-		W	P	H	L	D	
1/4	1,300	61190	61190	—	—	50	5/16	5/16	11/32	2 29/32	1 13/16	.37
1/4	1,300	—	—	61191	61191	50	5/16	5/16	11/32	2 29/32	1 13/16	.37
1/4	1,300	—	—	62191	62191	10	5/16	5/16	11/32	2 29/32	1 13/16	.37
5/16	1,900	61290	61290	—	—	50	25/64	3/8	27/64	3 17/32	2 7/64	.63
5/16	1,900	—	—	61291	61291	50	25/64	3/8	27/64	3 17/32	2 7/64	.63
5/16	1,900	—	—	62291	62291	10	25/64	3/8	27/64	3 17/32	2 7/64	.63
3/8	2,650	61390	61390	—	—	50	15/32	7/16	1/2	4 9/64	2 19/32	1.10
3/8	2,650	—	—	61391	61391	50	15/32	7/16	1/2	4 9/64	2 19/32	1.10
3/8	2,650	—	—	62391	62391	10	15/32	7/16	1/2	4 9/64	2 19/32	1.10
1/2	4,500	61590	61590	—	—	10	5/8	9/16	21/32	5 19/64	3 23/64	2.42
1/2	4,500	—	—	61591	61591	10	5/8	9/16	21/32	5 19/64	3 23/64	2.42

**Dixie clevis slip hook—grade 30**



Hook size (in.)	Working load limit (lbs.)*	Clear finish industrial pack		Zinc plated industrial pack		Pack	Dimensions (inches)					Approx. weight each (lbs.)
		Product code	UPC 81767-	Product code	UPC 81767-		W	P	H	L	D	
1/4	1,300	66190	66190	—	—	25	.35	.31	.78	2.27	2.32	.35
1/4	1,300	—	—	66191	66191	25	.35	.31	.78	2.27	2.32	.35
1/4	1,300	—	—	67191	67191	10	.35	.31	.78	2.27	2.32	.35
5/16	1,900	66290	66290	—	—	25	.42	.38	.83	2.59	2.72	.63
5/16	1,900	—	—	66291	66291	25	.42	.38	.83	2.59	2.72	.63
5/16	1,900	—	—	67291	67291	10	.42	.38	.83	2.59	2.72	.63
3/8	2,650	66390	66390	—	—	25	.50	.44	.92	2.98	3.20	1.02
3/8	2,650	—	—	66391	66391	25	.50	.44	.92	2.98	3.20	1.02
3/8	2,650	—	—	67391	67391	10	.50	.44	.92	2.98	3.20	1.02
1/2	9,200	66590	66590	—	—	10	.65	.54	1.34	4.17	4.32	2.27
1/2	9,200	—	—	66591	66591	10	.65	.54	1.34	4.17	4.32	2.27

3

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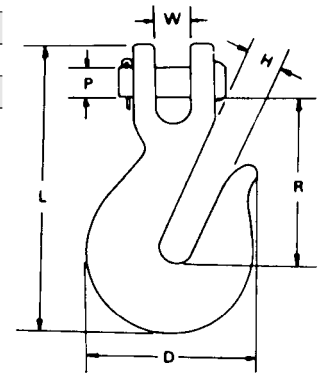


**CM clevis grab hook—grade 43**

Hot forged, heat treated and tempered

Hook size (in.)	Working load limit (lbs.)*	Clear finish industrial pack		Zinc plated industrial pack		Dimensions (inches)						Approx. weight each (lbs.)
		Product code	UPC 43927-	Product code	UPC 43927-	W	P	H	R	L	D	
1/4	2,600	M804L	41102	M804ZL	41105	5/16	5/16	3/8	2	33/8	115/16	.38
5/16	3,900	M805L	41118	M805ZL	41121	3/8	3/8	7/16	2 3/8	329/32	21/4	.62
3/8	5,400	M806L	41134	M806ZL	41137	7/16	7/16	1/2	2 11/16	4 1/2	2 11/16	.96
7/16	7,200	M807L	41149	M807ZL	41152	1/2	1/2	9/16	3	5 1/32	3	1.46
1/2	9,200	M808L	41162	M808ZL	41165	19/32	9/16	21/32	3 23/64	5 39/64	3 5/16	2.02
5/8	13,000	M810L	41173	M810ZL	41176	3/4	11/16	25/32	4	6 7/8	4 1/4	3.76
3/4	20,200	M812	37233	M812Z	38688	7/8	3/4	15/16	4 19/32	8	5 1/4	6.41

Applications: Designed for use with welded chain G30 or G43.  
Description: Natural and zinc plated finish.



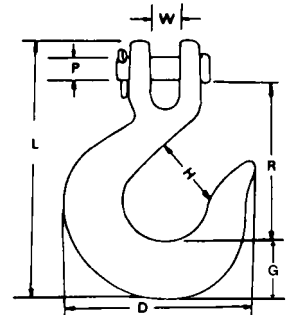
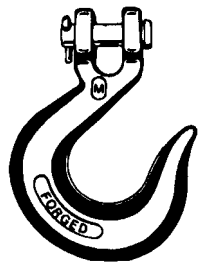
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**CM clevis slip hook—grade 43**

Hot forged, heat treated and tempered

Hook size (in.)	Working load limit (lbs.)*	Clear finish industrial pack		Zinc plated industrial pack		Dimensions (inches)							Approx. weight each (lbs.)
		Product code	UPC 43927-	Product code	UPC 43927-	W	P	H	R	L	G	D	
1/4	2,600	M904L	41194	M904ZL	41197	5/16	5/16	15/16	2 5/16	3 11/16	13/16	2 5/8	.47
5/16	3,900	M905L	41206	M905ZL	41209	3/8	3/8	1 1/16	2 9/16	4 3/16	15/16	3 1/16	.73
3/8	5,400	M906L	41222	M906ZL	41225	7/16	7/16	1 1/4	3	4 7/8	1 1/8	3 1/2	1.16
7/16	7,200	M907L	41237	M907ZL	41240	1/2	1/2	1 9/16	3 1/2	5 11/16	1 3/8	4 15/16	1.95
1/2	9,200	M908L	41249	M908ZL	41252	19/32	9/16	1 3/4	3 15/16	6 3/8	1 1/2	4 7/8	2.55
5/8	13,000	M910	41259	M910Z	41261	3/4	11/16	2	4 3/4	7 9/16	1 11/16	5 11/16	4.24

Applications: Designed for use with welded chain G30 or G43.  
Description: Natural and zinc plated finish.



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**\* ⚠ WARNING**

Improper use or care of attachments can result in bodily injury or property damage.

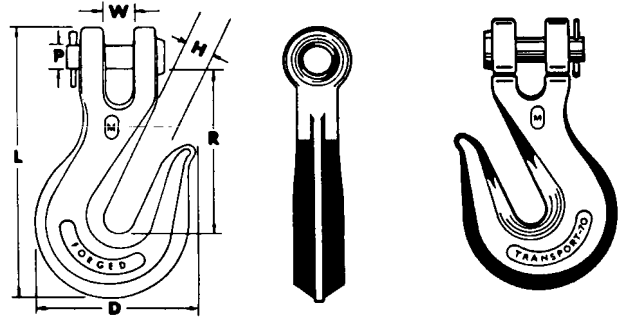
**To avoid injury** or damage, always observe the following when using hooks:

- Use alloy attachments for overhead lifting.
- Do not exceed working load limit.
- Do not shock or impact load.
- Do not side load—center line of load must coincide with center line of attachment.
- Do not replace pin with other than original equipment parts.
- Inspect before use for wear, deformation and pin engagement.

**CM clevis type grab hook—transport grade 70**

For grade 70 transport chain

- Designed specifically for transport grade 70 chain.
- Popular 5/16" and 3/8" sizes.
- Working load limits that match grade 70 chain.
- Higher strength to weight ratios due to more massive design.
- Design ultimate strength equals 4 times working load limit.
- Yellow chromate finish.
- Hooks embossed with chain grade.



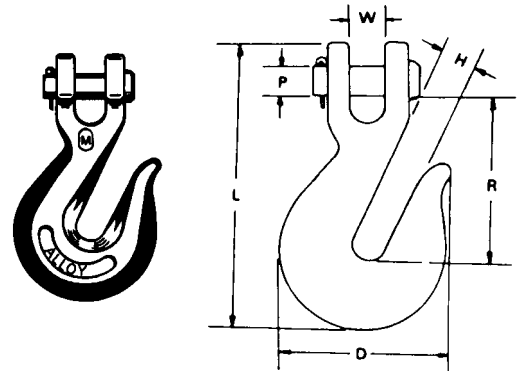
Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)						Approx. weight each (lbs.)
				W	D	H	L	P	R	
5/16	4,700	M805T	41337	.38	2.31	.44	4.0	.39	2.34	75
3/8	6,600	M806T	41344	.45	2.63	.50	4.50	.49	2.66	1.10

**CM alloy clevis type chain hook**

- Attach directly to the chain—no connecting links to buy.
- Heat treated pins.
- Extra deep throat.
- Painted orange.
- Hooks embossed with chain grade.
- "Alloy" forged on every hook.
- Grab hooks are compatible with grade 80 alloy chain except M807A.
- Slip hooks and M807A compatible with grade 63 alloy chain.
- Alloy clevis hooks develop the mechanical properties of grade 80 & 63 as stated, but are not recommended for overhead lifting sling applications.

**CM alloy clevis type grab hook—grade 80**

Hot forged, heat treated and tempered



Chain size (in.)	Working load limit (lbs.)*†	Product code	UPC 43927-	Dimensions (inches)						Approx. weight each (lbs.)	Standard industrial pack
				W	D	H	L	P	R		
1/4	3,500	M804A	41268	5/16	1 15/16	3/8	3 1/4	2 1/64	1 7/8	.38	30
5/16	4,500	M805A	41274	3/8	2 9/32	7/16	3 31/32	25/64	2 3/8	.62	30
3/8	7,100	M806A	41281	29/64	2 5/8	1/2	4 1/2	1/2	2 5/8	.96	30
7/16	6,900	M807A**	41286	1/2	3	9/16	5 1/32	1/2	3	1.46	20
1/2	12,000	M808A	41290	19/32	3 7/16	2 1/32	5 23/32	19/32	3 5/16	2.02	10
5/8	18,100	M810A	41296	3/4	4 5/16	25/32	6 7/8	3/4	3 15/16	3.75	10

\*\*Grade 63.

†Alloy clevis hooks develop the mechanical properties of grade 80 & 63 as stated, but are not recommended for overhead lifting sling applications.

**\*▲WARNING**

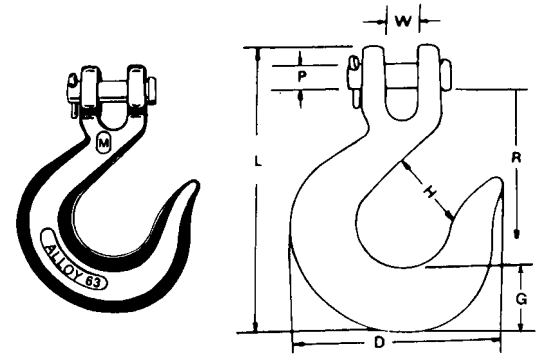
Improper use or care of hooks can result in bodily injury or property damage.

To avoid injury or property damage, always observe the following when using hooks:

- Do not exceed working load limit.
- Use only alloy hooks for overhead lifting.
- Do not tip load or use in any manner for which the hook was not intended.
- Do not shock or dynamic load.
- Do not apply load to hook latches. Latches are to retain slack slings and chain only.

**CM alloy clevis type slip hook—grade 63**

Hot forged, heat treated and tempered



Chain size (in.)	Working load limit (lbs.)*†	Product code	UPC 43927-	Dimensions (inches)							Approx. weight each (lbs.)	Standard industrial pack
				W	D	H	L	P	R	G		
1/4	2,750	M904A	41301	5/16	2 5/8	15/16	3 11/16	11/32	2 5/16	13/16	.47	20
5/16	3,600	M905A	41308	3/8	3 1/16	1 1/16	4 3/16	25/64	2 9/16	15/16	.73	20
3/8	5,500	M906A	41314	15/32	3 1/2	1 1/4	4 7/8	1/2	3	1 1/8	1.16	20
7/16	6,900	M907A	41320	1/2	4 5/16	1 9/16	5 11/16	1/2	3 1/2	1 3/8	1.95	10
1/2	9,400	M908A	41325	19/32	4 7/8	1 3/4	6 3/8	19/32	3 15/16	1 1/2	2.55	10
5/8	14,200	M910A	41330	3/4	5 11/16	2	7 9/16	3/4	4 3/4	1 11/16	4.24	5

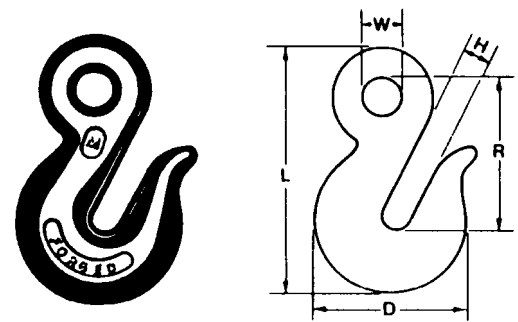
†Alloy clevis hooks develop the mechanical properties of grade 80 & 63 as stated, but are not recommended for overhead lifting sling applications.

**CM eye type chain hook**

- Use with Big Orange mid-link to connect directly to chain.
- Extra deep throat.
- Made for use on grade 43 high test chain and grade 30 proof coil chain.
- Hooks are supplied in grade 30 when no suffix is indicated.
- Hooks available with bright zinc finish.
- Hooks have a clear protective finish to resist rust and for cleaner handling.
- Bulk packaging is available on large quantities upon request, in both grade 30 and grade 43, without protective finish.
- Hooks embossed with chain grade.

**CM eye type grab hook—grade 30**

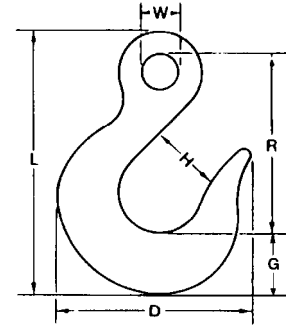
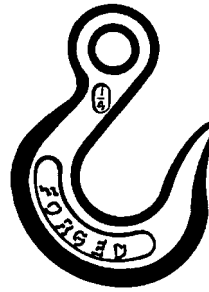
For use with grade 30 proof coil chain



Chain size (in.)	Working load limit (lbs.)*	Clear finish		Zinc plated		Dimensions (inches)					Approx. weight each (lbs.)	Standard industrial pack
		Product code	UPC 43927-	Product code	UPC 43927-	W	D	H	L	R		
1/4	1,300	M204RL	41368	M204ZL	41371	17/32	2	3/8	3 3/64	1 15/16	.28	30
5/16	1,900	M205RL	41375	M205ZL	41378	5/8	2 11/32	7/16	3 5/8	2 3/8	.54	30
3/8	2,650	M206RL	41382	M206ZL	41385	25/32	2 11/16	1/2	4 9/32	2 13/16	.80	30
7/16	3,700	M207RL	41390	M207ZL	41393	13/16	3 3/64	37/64	4 55/64	3 11/64	1.32	20
1/2	4,500	M208RL	41398	M208ZL	41401	15/16	3 25/64	21/32	5 33/64	3 5/8	1.74	10
5/8	6,900	M210RL	41405	M210ZL	41408	1 1/16	4 5/16	25/32	6 15/16	4 33/64	3.44	10
3/4	10,600	M212R	41409	M212Z	41411	1 3/8	5 7/32	15/16	8 5/16	5 3/8	6.10	Bulk

**CM eye type slip hook—grade 30**

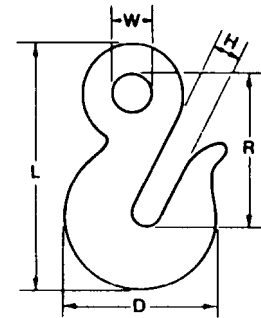
For use with grade 30 proof coil chain



Chain size (in.)	Working load limit (lbs.)*	Clear finish		Zinc plated		Dimensions (inches)						Approx. weight each (lbs.)	Standard industrial pack
		Product code	UPC 43927-	Product code	UPC 43927-	W	D	H	L	R	G		
1/4	1,300	M304RL	41447	M304ZL	41450	17/32	2 9/16	15/16	3 19/32	2 15/32	13/16	.42	20
5/16	1,900	M305RL	41454	M305ZL	41457	5/8	3 1/16	1 1/16	4 3/32	2 25/32	15/16	.58	20
3/8	2,650	M306RL	41461	M306ZL	41464	25/32	3 1/2	1 1/4	4 27/32	3 5/16	1 1/8	1.00	20
7/16	3,700	M307RL	41468	M307ZL	41471	13/16	4 21/64	1 9/16	5 19/32	3 3/4	1 3/8	1.50	10
1/2	4,500	M308RL	41476	M308ZL	41479	15/16	4 29/32	1 3/4	6 11/32	4 5/16	1 1/2	2.50	10
5/8	6,900	M310R	41483	M310ZL	41485	1 3/16	5 5/8	2	7 3/4	5 5/16	2 1/4	3.70	5
3/4	10,600	D74792	34307	—	—	1 1/4	7 1/8	2 1/4	9	5 13/16	2 3/8	6.00	Bulk

**CM heat treated eye type grab hook—grade 43**

For use with grade 43 high test chain



Chain size (in.)	Working load limit (lbs.)*	Clear finish		Zinc plated		Dimensions (inches)						Approx. weight each (lbs.)	Standard industrial pack
		Product code	UPC 43927-	Product code	UPC 43927-	W	D	H	L	R	F		
1/4	2,600	M204H	41414	M204HZ	41415	17/32	2	3/8	3 3/64	1 15/16		.28	30
5/16	3,900	M205H	41419	M205HZ	41420	5/8	2 11/32	7/16	3 5/8	2 3/8		.54	30
3/8	5,400	M206H	41424	M206HZ	41426	25/32	2 11/16	1/2	4 9/32	2 13/16		.80	30
7/16	7,200	M207H	41429	M207HZ	41430	13/16	3 3/64	37/64	4 55/64	3 11/64		1.32	20
1/2	9,200	M208H	41434	M208HZ	41435	15/16	3 25/64	21/32	5 33/64	3 5/8		1.74	10
5/8	13,000	M210H	41438	M210HZ	41439	1 1/16	4 5/16	25/32	6 15/16	4 33/64		3.44	10
3/4	20,200	M212H	41442	M212HZ	41443	1 3/8	5 7/32	15/16	8 5/16	5 3/8		6.10	Bulk

**\*▲WARNING**

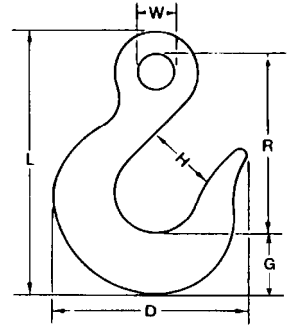
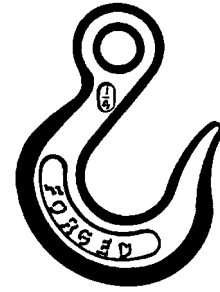
Improper use or care of hooks can result in bodily injury or property damage.

**To avoid injury** or property damage, always observe the following when using hooks:

- Do not exceed working load limit.
- Use only alloy hooks for overhead lifting.
- Do not tip load or use in any manner for which the hook was not intended.
- Do not shock or dynamic load.
- Do not apply load to hook latches. Latches are to retain slack slings and chain only.

**CM heat treated eye type slip hook—grade 43**

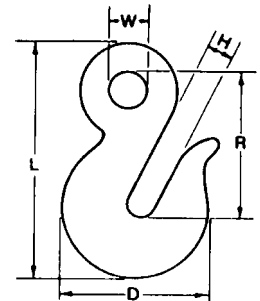
For use with grade 43 high test chain



Chain size (in.)	Working load limit (lbs.)*	Clear finish		Zinc plated		Dimensions (inches)						Approx. weight each (lbs.)	Standard industrial pack
		Product code	UPC 43927-	Product code	UPC 43927-	W	D	H	L	R	G		
1/4	2,600	M304H	41488	M304HZ	41489	17/32	2 9/16	15/16	3 19/32	2 15/32	13/16	.42	20
5/16	3,900	M305H	41492	M305HZ	41493	5/8	3 1/16	1 1/16	4 3/32	2 25/32	15/16	.58	20
3/8	5,400	M306H	41496	M306HZ	41497	25/32	3 1/2	1 1/4	4 27/32	3 5/16	1 1/8	1.00	20
7/16	7,200	M307H	41500	M307HZ	41501	13/16	4 21/64	1 9/16	5 19/32	3 3/4	13/8	1.50	10
1/2	9,200	M308H	41504	M308HZ	41505	15/16	4 29/32	1 3/4	6 11/32	4 5/16	1 1/2	2.50	10
5/8	13,000	M310H	41508	M310HZ	41409	1 3/16	5 5/8	2	7 3/4	5 5/16	2 1/4	3.70	5
3/4	11,500	—	—	75793	81767-75793	1.53	6.14	2.06	8.60	6.5	1 15/16	6.50	5

**CM alloy eye type chain hook**

- Forged from alloy steel.
- Extra deep throat.
- Painted orange.
- Hooks embossed with chain grade.
- Grab hooks are compatible with grade 80 alloy chain except M207A.
- Slip hook compatible with grade 63 alloy chain.



**CM alloy eye type grade 80 grab hook**

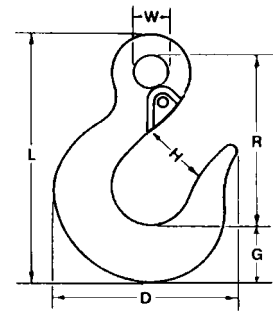
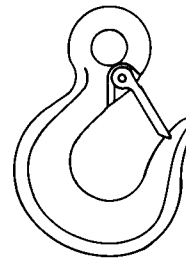
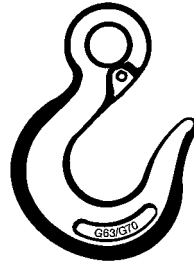
Hot forged, heat treated and tempered

Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)					Approx. weight each (lbs.)	Standard industrial pack
				W	D	H	L	R		
1/4	3,500	M204A	41516	17/32	2	3/8	3 7/32	2 1/32	.44	30
5/16	4,500	M205A	41520	5/8	2 13/32	7/16	3 25/32	2 13/32	.69	30
3/8	7,100	M206A	41527	25/32	2 11/16	1/2	4 11/32	2 3/4	1.00	30
7/16**	6,900	M207A	41533	13/16	3 3/64	37/64	4 55/64	3 11/64	1.20	20
1/2	12,000	M208A	41539	15/16	3 1/4	2 1/32	5 9/16	3 9/16	2.31	10
5/8	18,100	M210A	41543	1 1/16	4 11/32	25/32	7 1/16	4 9/16	4.00	10

\*\*Grade 63

**CM alloy eye type slip hook**

Hot forged and heat treated

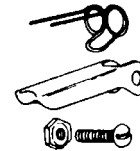
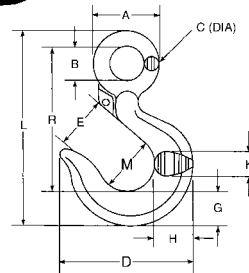
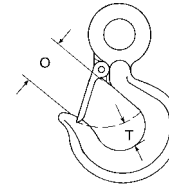


Chain size (in.)	Working load limit (lbs.)*		Hook		Latch kit**		Dimensions (inches)						Approx. weight each (lbs.)	Standard industrial pack
	Grade 63	Grade 70	Product code	UPC 43927-	Product code	UPC 43927-	W	D	H	L	R	G		
1/4	2,750	3,150	M6304	46196	4X404	41089	17/32	2 11/16	29/32	3 3/4	2 1/2	7/8	.45	20
5/16	3,600	4,700	M6305	46198	4X405	41090	5/8	3 3/16	13/64	4 13/32	3	1 1/32	.58	20
3/8	5,500	6,600	M6306	46200	4X406	41091	25/32	3 3/4	17/32	5 3/16	3 1/2	1 1/4	.98	20
7/16	7,100	8,750	M6307	46202	4X410	41092	13/16	4 21/64	17/16	5 3/4	3 29/32	1 3/8	1.50	10
1/2	9,400	—	M308A†	41562	—	—	15/16	4 29/32	1 3/4	6 11/32	4 5/16	1 1/2	2.50	10
5/8	14,200	—	M310A†	41566	—	—	13/16	5 5/8	2	7 3/4	5 5/16	2 1/4	3.10	5

\*\*Stainless steel latch kit available. Latch is designed to retain such items as slings and chains under slack conditions. The latch is not intended to support the load.  
†No latch hole.

**CM rigging eye hook and latch—carbon**

- Hook and latch assemblies furnished separately.
- All eye type hooks are furnished pre-drilled for latches.
- Hooks have a clear protective finish to resist rust and for cleaner handling.
- Use suffix "C" when ordering carbon clear finish.
- Carbon steel eye hooks for slings and rigging are available hot dip galvanized. Use suffix "G" when ordering.



**CM carbon steel hook**

Hot forged, heat treated and tempered

Working load limit* (metric tons)†	Hook		Latch kit**		Dimensions (inches)												Approx. weight each (lbs.)
	Product code	UPC 43927-	Product code	UPC 43927-	A	B	C	D	E	G	H	K	L	R	T	O	
3/4	M404C	41005	4X404	41089	1.500	.750	.375	3.000	1.000	.750	.875	.562	4.375	3.125	.812	.875	.63
1	M405C	41011	4X405	41090	1.750	.875	.438	3.188	1.078	.844	.938	.625	4.938	3.656	.938	.938	.85
1 1/2	M406C	41018	4X406	41091	2.125	1.125	.500	3.625	1.125	1.000	1.156	.750	5.594	4.094	1.000	1.000	1.38
2	M407C	41025	4X406	41091	2.500	1.250	.625	4.094	1.250	1.125	1.312	.844	6.438	4.688	1.188	1.125	1.92
3	M410C	41032	4X410	41092	3.063	1.563	.750	5.063	1.531	1.438	1.625	1.125	7.969	5.781	1.438	1.375	3.70
5	M412C	41038	4X412	41093	3.875	2.000	.938	6.500	1.969	1.875	2.063	1.375	10.125	7.313	1.875	1.688	7.28
7 1/2††	M414C	45523	4X414	45529	4.685	2.441	1.122	7.598	2.244	2.480	2.606	1.850	12.500	9.055	2.380	2.047	15.40
11††	M416C	45524	4X416	45530	5.354	2.835	1.268	8.700	2.480	2.756	2.917	2.165	13.984	10.039	2.380	2.244	22.20
15††	M418C	45525	4X418	45531	6.614	3.504	1.555	11.102	3.346	3.228	3.516	2.598	17.126	12.480	2.500	2.992	37.60

\*\*Stainless steel latch kit available. Latch is designed to retain such items as slings and chains under slack conditions. The latch is not intended to support the load.

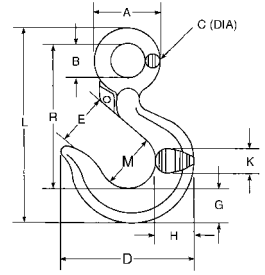
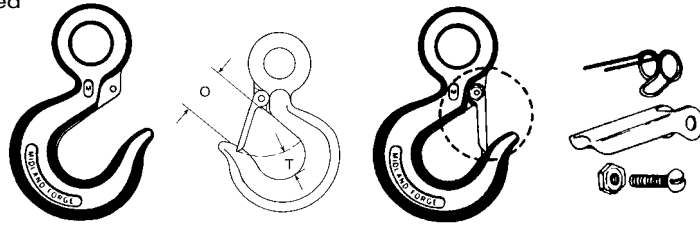
†Metric ton = 2,204 lbs.  
†† Imported.

3

MEX (55) 53 63 23 31 MTY (81) 83 54 10 18  
 QRO (442) 1 95 72 60 ventas@industrialmagza.com  
**MAGZA** INDUSTRIAL  
 DIST. AUTORIZADO

**CM rigging eye hook and latch—alloy**

- Hook and latch assemblies furnished separately.
- All eye type hooks are furnished pre-drilled for latches.
- Painted orange.



**CM alloy steel hook**

Hot forged, heat treated and tempered

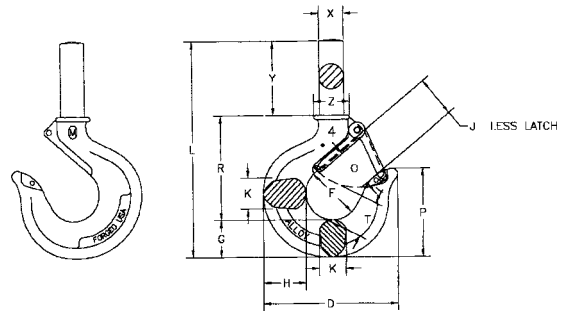
Working load limit* (metric tons)†	Hook		Latch kit**		Dimensions (inches)														Approx. weight each (lbs.)
	Product code	UPC 43927-	Product code	UPC 43927-	A	B	C	D	E	G	H	K	L	M	R	T	O		
1	M404A	41046	4X404	41089	1.500	.750	.375	3.000	1.000	.750	.875	.562	4.375	1.250	3.125	.812	.875	.63	
1½	M405A	41051	4X405	41090	1.750	.875	.438	3.188	1.078	.844	.938	.625	4.938	1.375	3.656	.938	.938	.85	
2	M406A	41056	4X406	41091	2.125	1.125	.500	3.625	1.125	1.000	1.156	.750	5.594	1.438	4.094	1.000	1.000	1.38	
3	M407A	41065	4X406	41091	2.500	1.250	.625	4.217	1.250	1.274	1.431	.940	6.567	1.625	4.668	1.188	1.125	1.92	
5	M410A	41074	4X410	41092	3.063	1.563	.750	5.063	1.531	1.438	1.625	1.125	7.969	2.000	5.781	1.438	1.375	3.70	
7	M412A	41079	4X412	41093	3.875	2.000	.938	6.500	1.969	1.875	2.063	1.375	10.125	2.625	7.313	1.875	1.688	7.28	
11	M414A	45526	4X414	45529	4.688	2.438	1.125	7.688	2.250	2.250	2.625	1.900	12.434	3.000	9.034	2.297	2.053	15.40	
15††	M416A	45527	4X416	45530	5.354	2.835	1.268	8.700	2.480	2.756	2.917	2.165	13.984	3.307	10.039	2.380	2.244	22.20	
22††	M418A	45528	4X418	45531	6.614	3.504	1.555	11.102	3.346	3.228	3.516	2.598	17.126	3.937	12.480	2.500	2.992	37.60	

\*\*Stainless steel latch kit available. Latch is designed to retain such items as slings and chains under slack conditions. The latch is not intended to support the load.

† Metric ton = 2,204 lbs.  
†† Imported.

**CM alloy shank hooks**

- Heat treated alloy steel provides strength without bulk or weight
- Pre-drilled boss allows for addition of a latch.
- Hardness approximately R30<sub>C</sub>-36<sub>C</sub>
- Shank hooks are supplied unthreaded. Insufficient thread engagement can result in loss of load. The following must be observed:
  - 1) Shanks are not intended for internal threading or swaging.
  - 2) To obtain maximum strength threads to be class 1 or 2.
  - 3) Thread engagement in nut or object must be a minimum of 1½ times the thread diameter.



Hook no.	Product code*	UPC 43927-	Alloy W.L.L.	Max. shank dia. after machining	Min. thread size (UNC)	Dimensions (inches)														Latch hole dia.	Latch kit code
						D	F	G	H	J	K	L	O	P	R	T	X	Y	Z		
2	M1302A	46294	1	.53	1/2-13	3.06	1.25	.87	1.05	.93	.63	5.28	.93	2.12	2.35	.87	.59	2.06	.69	.144	4X1302
3	M1303A	46295	1.5	.62	5/8-11	3.33	1.38	.94	1.11	.97	.71	5.78	.97	2.27	2.59	.97	.66	2.25	.78	.180	4X1303
4	M1304A	46296	2	.66	5/8-11	3.67	1.50	1.06	1.21	1.06	.88	6.29	1.06	2.54	2.75	1.03	.72	2.50	1.00	.180	4X1304
5	M1305A	46297	3	.81	3/4-10	4.20	1.63	1.27	1.43	1.19	.94	7.26	1.16	2.80	3.16	1.16	.88	2.84	1.00	.180	4X1305
6	M1306A	46298	3.5	.94	7/8-9	4.74	1.63	1.42	1.59	1.38	1.00	7.55	1.28	3.23	3.13	1.06	1.00	3.00	1.16	.203	4X1307
7	M1307A	46299	5	1.03	7/8-9	5.11	2.00	1.44	1.63	1.50	1.31	8.63	1.41	3.47	3.85	1.53	1.16	3.34	1.25	.203	4X1307
8	M1308A	46300	5.5	1.13	1-8	6.04	2.25	1.69	1.98	1.75	1.44	11.81	1.66	4.06	4.13	1.28	1.22	6.00	1.44	.203	4X1309
9	M1309A	46301	7	1.27	1 1/8-7	6.24	2.50	1.82	2.01	1.78	1.68	10.43	1.69	4.59	4.77	1.94	1.41	3.84	1.56	.203	4X1309
11	M1311A	46302	11	1.52	1 3/8-6	7.69	3.00	2.25	2.63	2.41	1.88	12.50	2.22	5.63	5.88	2.46	1.81	4.38	2.00	.257	4X1311

\*Order latch kit separately.

**\* ⚠ WARNING**

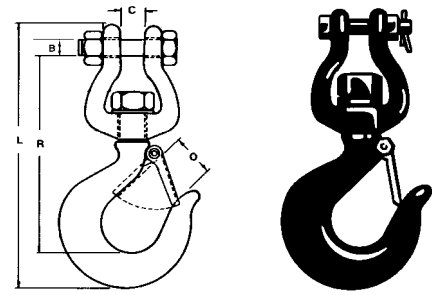
TO AVOID INJURY:

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

**CM replacement hooks with latch**

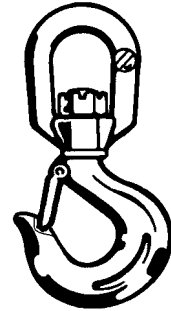
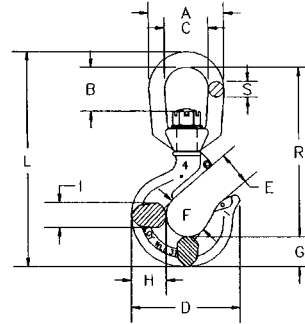
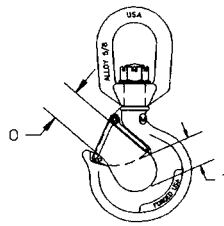
- Attaches easily to standard chain of electric hoist using welded link load chain, roller chain or wire rope with applicable end fitting
- Swivel jaw is forged

Product code	UPC 43927-	Working load limit* (tons)	Dimensions (inches)					Approx. weight each (lbs.)
			B	C	L	O	R	
M133	46039	1/2	.438	.500	6.42	1.000	4.89	2.00
M134	46020	1	.437	.500	7.56	1.125	5.625	2.56



**CM alloy swivel hooks**

- Alloy steel
- Heat treated, quenched & tempered
- Design factor 5-1
- Built in distortion detectors
- Pre-drilled for 1300 series latch kits



**Without latch**

Hook product code	UPC 43927-	Working load limit* (tons)	Dimensions (inches)														Approx. weight each (lbs.)	Latch kit (optional)
			A	B	C	D	E	F	G	H	I	L	R	S	T	O		
M3402A	46280	1	2.00	1.11	1.25	3.15	1.00	1.25	.87	1.00	.63	5.88	4.63	.38	.81	.88	1.00	4X1302
M3403A	46281	1 1/2	2.50	1.38	1.50	3.47	1.08	1.38	.96	1.11	.72	6.89	5.44	.50	.94	.94	1.50	4X1303
M3404A	46282	2	3.00	1.65	1.75	3.78	1.13	1.50	1.04	1.21	.86	7.93	6.25	.63	1.00	1.00	2.60	4X1304
M3405A	46283	3	3.00	1.65	1.75	4.22	1.25	1.63	1.27	1.43	.94	8.25	6.49	.63	1.19	1.13	3.10	4X1305
M3407A	46284	5	3.50	1.77	2.00	5.07	1.53	2.00	1.44	1.62	1.15	9.72	7.53	.75	1.44	1.38	5.30	4X1307
M3409A	46285	7	4.75	2.39	2.75	6.30	1.97	2.50	1.74	2.01	1.51	12.41	9.60	1.00	1.88	1.69	10.40	4X1309
M3411A	46286	11	5.50	2.55	3.25	7.69	2.25	3.00	2.25	2.63	1.90	15.43	12.06	1.13	2.31	1.94	16.25	4X1311

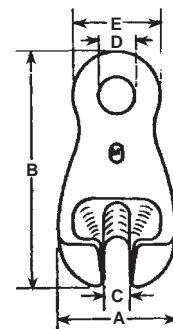
**Assembled with latch**

Hook & latch assembled		Working load limit* (lbs.)	Approx. weight each (lbs.)
Product code	UPC 43927-		
M3502A	46287	1	1.5
M3503A	46288	1 1/2	2
M3504A	46289	2	3
M3505A	46290	3	3.5
M3507A	46291	5	7.5
M3509A	46292	7	14
M3511A	46293	11	16.25

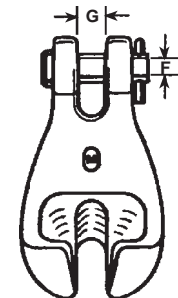
**CM claw hook**

- Especially designed for easy hook-up to loose or taut chain with one hand connection.
- Drop forged from special bar quality steel.
- Heat treated for greater strength and increased wear characteristics.
- Allows full joint strength when used with high test grade 43 or transport grade 70 chain.
- Clear protective finish resists rust and provides cleaner handling.
- For use with 3/8" G43 or G70 chain.
- Working load limit 6,600 lbs.

Product code	UPC 43927-	Dimensions (inches)								Factory pack**	Approx. weight each (lbs.)
		A	B	C	D	E	F	G			
M206C	41356	2 5/32	4 3/16	1/2	1 1/16	1 5/8	—	—	10	1.15	
M806C	41350	2 5/32	4 1/8	15/32	—	—	7/16	1/2	10	1.20	



Eye type  
Part no. M206C

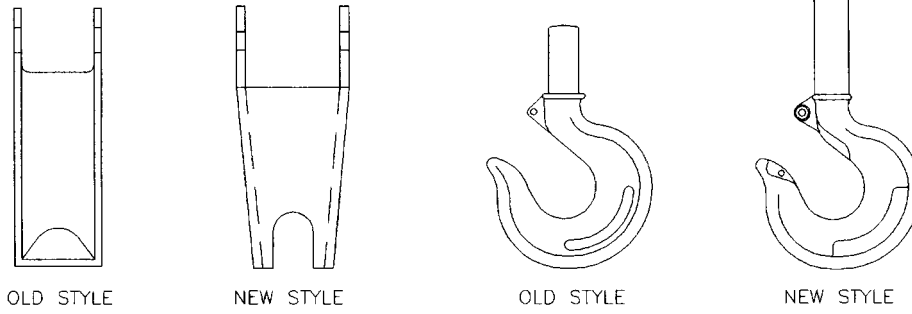


Clevis type  
Part no. M806C

\*\*Bulk pack on request.



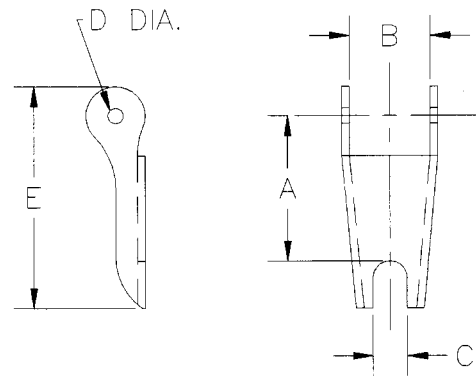
M3400A and M1300 series hook latches



Alloy	Latch				Hook				
	Working load limit (lbs.)*	Old style code	UPC 43927-	New style code	UPC 43927-	Old style code	UPC 43927-	New style code	UPC 43927-
1	4X405	41090	4X1302	46273	M3402	45910	M3402A	46280	
1.5	4X405	41090	4X1303	46274	M3403	45911	M3403A	46281	
2	4X406	41091	4X1304	46275	M3404	45912	M3404A	46282	
3	4X406	41091	4X1305	46276	M3405	45913	M3405A	46283	
5	4X410	41092	4X1307	46277	M3407	45914	M3407A	46284	
7	4X412	41093	4X1309	46278	M3409	45915	M3409A	46285	
11	—	—	4X1311	46279	—	—	M3411A	46286	

Replacement latch kit for M3400A and M1300 series hooks

- Heavy duty latch interlocks with hook tip.
- High cycle, durable spring.
- Can be made into a “positive locking” hook when proper twist clip is utilized.



Alloy	Working load limit (lbs.)*	Latch kit code	UPC 43927-	Weight each (lbs.)	Dimensions				
					A	B	C	D	E
1	4X1302	46273	.03	.94	.50	.20	.15	1.44	
1.5	4X1303	46274	.04	1.00	.54	.22	.17	1.56	
2	4X1304	46275	.04	1.09	.63	.23	.17	1.66	
3	4X1305	46276	.06	1.21	.66	.28	.17	1.91	
5	4X1307	46277	.10	1.53	.83	.35	.20	2.31	
7	4X1309	46278	.15	1.88	1.04	.44	.20	2.88	
11	4X1311	46279	.28	2.38	1.25	.53	.27	3.44	

**\*▲WARNING**

**TO AVOID INJURY:**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

### Warnings and application instructions

This latch is intended to only retain loose slings or devices under slack conditions. Caution must be used to assure that the latch does not support any of the load. Periodic inspection of the latch must be made to assure that the latch is operative. If a latch becomes inoperative because of wear or deformation, or fails to fully bridge the throat opening, the hook should be removed from service until the device has been repaired or replaced.

#### Important safety information to be followed each time hook is used

- Refer to OSHA regulations 29 CFR Ch. XVII, Section 1926.550, subpart N-Cranes, Derricks, Hoists, Elevators, and Conveyors for positive locking applications. Only CM hook & latch combinations may be used for positive locking applications (when twist clip 15 engaged through the hook tip)!
- Inspect hook and latch before using.
- Never use a latch that is distorted, bent, or has been modified, (do not use latch with substituted components)!
- Check to make sure spring will force latch against tip of the hook.
- Check to make sure hook supports the load. The latch must never support the load.
- Check to make sure when the twist clip is in place, that the latch tightly fits the throat opening of the hook.
- Check to make sure that correct rigging and operating practices are being used.

CM hook & latch combinations

Part no.		
Alloy shank hook	Swivel hook	Latch no.
M1302A	M3402A	4X1302
M1303A	M3403A	4X1303
M1304A	M3404A	4X1304
M1305A	M3405A	4X1305
M1306A	—	4X1307
M1307A	M3407A	4X1307
M1308A	—	4X1309
M1309A	M3409A	4X1309
M1311A	M3411A	4X1311

### Important—instructions for assembling the positive locking latch

#### For assembly to hook

1. Line up holes in latch with cam.
2. Insert bolt through latch, spring and cam.
3. Tighten self-locking nut on latch pivot bolt.

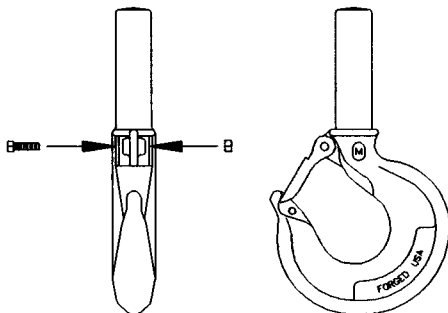


FIGURE 1

#### For positive locking applications

1. With latch in closed position and rigging slack in bowl of hook, put twist clip through hook tip to secure latch in place. When not using the twist clip, store in a designated place.

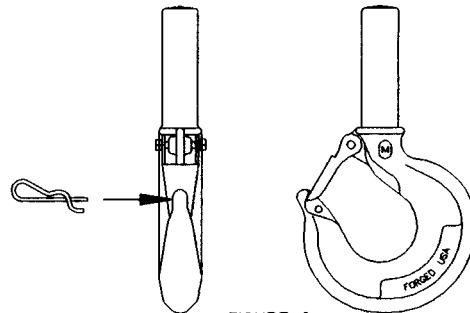
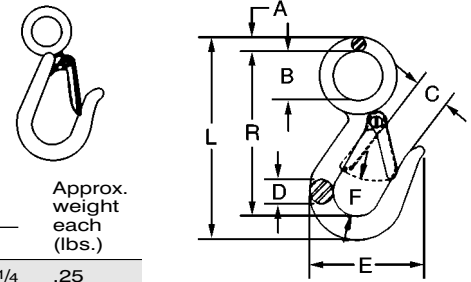


FIGURE 2

**CM snap hook—forged steel, heat treated**

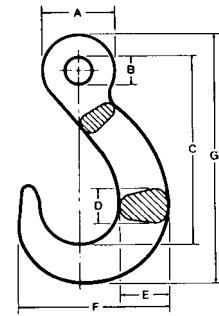
- Stainless steel latches, springs, bolts and nuts.
- Ultimate load is 4 times the working load limit.



Hook size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)								Approx. weight each (lbs.)
				A	B	C	D	E	F	L	R	
7/16	750	495116	34235	1/4	3/4	3/4	.44	2 1/4	3/4	3 15/16	3 1/4	.25

**CM aircraft tie-down hook/chain type**

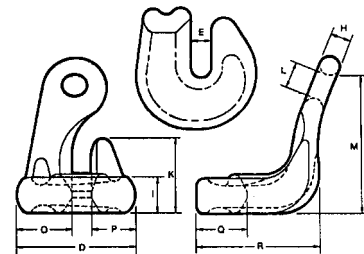
- Strengths are compatible with 9/32" alloy chain having a working load limit of 4100 lbs.
- Forged from special bar quality alloy steel.
- Ref. Dept. of Navy P/N 61A101B10.
- Quenched and tempered for better mechanical properties.
- Normal self colored finish. Can be painted or hot dip galvanized.



Product code	UPC 43927-	Dimensions (inches)								Approx. weight each (lbs.)
		A	B	C	D	E	F	G		
M130SC	42003	1 5/16	17/32	3 11/16	11/16	15/16	2 27/32	4 25/32	.63	

**CM aircraft tie-down hook/cargo type**

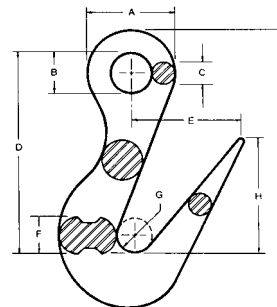
- Strengths are compatible with 9/32" alloy chain having a working load limit of 4100 lbs.
- Forged from special bar quality alloy steel.
- Quenched and tempered for better mechanical properties.
- Normal self colored finish. Can be painted or hot dip galvanized.



Hook size (in.)	Product code	UPC 43927-	Dimensions (inches)											Approx. weight each (lbs.)
			D	E	H	I	K	L	M	O	P	Q	R	
9/32	474227	42002	2 7/32	3/8	11/32	21/32	13/8	1/2	2 5/8	11/32	13/16	15/16	2 19/64	.89

**CM sorting hook**

- Forged from special bar quality steel - heat treated
- Special construction for efficient handling of flat plates or large cylindrical shapes.
- Long tapered point designed for easy grab in rings, pear links, eyebolts or lifting holes.
- Painted orange.
- Design ultimate strength is 5 times working load limit.



Working load limit at tip (tons)*	Working load limit at bottom of hook (tons)*	Product code	UPC 43927-	Dimensions (inches)							Approx. weight each (lbs.)		
				A	B	C	D	E	F	G			
2	7 1/2	M129	41511	3	17/16	25/32	7 11/32	3 3/4	19/32	1 1/4	4 1/8	10 3/32	6.8

**\*WARNING**

**TO AVOID INJURY:**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

**Dixie—tarp hook**

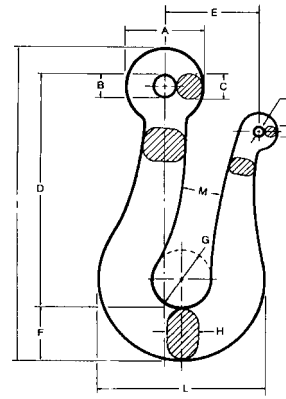
- Zinc plated



Size diameter (in.)*	Product code	UPC 81767-	Approx. weight each (lbs.)	Standard industrial pack
3/8	57311	57311	1.5	20

**CM trek hook**

- Forged from special bar quality steel.
- Ref. Army Ord. Corps P/N 7339460.
- Normal self colored finish. Can be painted or hot dip galvanized to ASTM A153.
- Design ultimate strength equals 4 times working load limit.



Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)													Approx. weight each (lbs.)
			A	B	C	D	E	F	G	H	I	J	K	L	M	
2,650	M128SC	41364	15/8	1/2	9/16	5	2	1 1/8	1 1/4	11/16	6 11/16	1/4	5/16	3 1/2	29/32	2.0

**CM quick link**

- Imported



For chain size (in.)	Working load limit (lbs.)*	Carton		Std. pack	Gap (in.)	Inside width (in.)	Inside length (in.)	Approx. weight display pack (lbs.)
		Product code	UPC 43927-					
1/8	220	81901	81767-81901	20	13/64	25/64	19/64	.6
3/16	615	D81001	35975	20	1/4	1/2	1 1/2	4 1/2
1/4	880	D81101	35956	20	9/32	9/16	1 3/4	8
5/16	1,540	D81201	35957	20	3/8	11/16	2 5/16	17
3/8	1,980	D81301	35958	10	7/16	3/4	2 7/16	23
1/2	3,300	D81501	35983	10	19/32	15/16	3 3/16	51

Applications: Used as a repair link, connecting link or attaching device.  
 Description: Zinc plated, not heat treated. Use only with chain of equal or lower working load limit. Not to be used for load securement (tie-down).

**CM repair link**



Trade size (in.)	Working load limit (lbs.)*	Carton				Pieces per carton	Inside length (in.)	Inside width (in.)	Approx. weight each (lbs.)
		Bright finish		Zinc plated					
		Product code	UPC 43927-	Product code	UPC 43927-				
3/16 x 1	240	653180	53180	653618	34843	100	1	1/2	.035
7/32 x 1 1/4	250	653211	53211	653621	35115	50	1 1/4	1/2	.055
1/4 x 1 1/4	400	653251	53251	653625	34844	50	1 1/4	1/2	.075
1/4 x 2	400	653255	34897	653627	35141	50	2	5/8	.105
5/16 x 1 1/2	950	653312	34900	653631	34845	50	1 1/2	3/4	.145
5/16 x 2	1,000	653315	34913	653632	35561	50	2	3/4	.170
3/8 x 1 5/8	1,250	653373	53373	653633	34846	50	1 5/8	3/4	.230
3/8 x 2	1,250	653375	35049	653638	35568	50	2	3/4	.240

Applications: A temporary repair link also used to couple light attachments.  
 Description: A mild steel, available with bright, hot galvanized or zinc plated finishes. Not to be used for load securement (tie-down).

**Dixie—swivels**

- Imported



Trade size (in.)	Working load limit (lbs.)*	Product code	UPC 81767-	Approx. weight each (lbs.)
3/16	590	89511	89511	.21
3/8	2,350	89514	89514	.73

3/16" supplied in packs of 10  
 3/8" supplied 10 per card

**\* ⚠ WARNING**

**TO AVOID INJURY:**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

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CM cold shut



Trade size (in.)	Working load limit (lbs.)*	Zinc plated bulk (ea.)		Zinc plated carton (10)		Self colored bulk (ea.)		Inside length (in.)	Inside width (in.)	Approx. weight each (lbs.)
		Product code	UPC 43927-	Product code	UPC 43927-	Product code	UPC 43927-			
3/16	525	D50091	22781	—	—	D50090	35984	15/16	5/16	.03
1/4	800	D50191	22782	673104	34175	D50190	35985	1	3/8	.05
5/16	1,300	D50291	22783	673105	34176	D50290	39013	1 3/16	7/16	.11
3/8	1,900	D50391	22784	673106	34177	D50390	20287	1 5/16	1/2	.17
7/16	2,650	D50491	29362	673107	34178	D50490	20288	1 1/2	9/16	.27
1/2	3,500	D50591	29363	673108	34179	D50590	20289	1 9/16	3/4	.39
5/8	4,500	D50691	29364	673110	34180	D50690	20290	2 1/8	7/8	.77
3/4	6,900	—	—	51791	81767-51791	—	—	2 11/16	1	1.28

Applications: As temporary repair link, use one size larger than proof coil chain (grade 30) with which it is to be used.  
 Also used to couple light attachments.  
 Description: Low carbon steel, self colored or zinc plated finish.  
 Not to be used for load securement (tie-down).

3

CM "S" hook



Fig. 1



†Fig. 2

Hook number	Working load limit (lbs.)*	Self colored carton		Zinc plated carton		Wire size	Inside length (in.)	Throat opening (in.)	Approx. weight per 100 (lbs.)
		Product code	UPC 43927-	Product code	UPC 43927-				
20	16	687120	34381	687420	34398	.080	27/32	5/32	1/4
21	16	687121	34382	687421	34399	.080	11/16	5/32	1/4
40	42	687140	34383	687440	34409	.134	1	5/16	1
60	75	687160	34384	687460	34410	.192	1 11/16	7/16	3 3/4
61	120	687161	34385	687461	34411	.204	1 5/8	7/16	3 7/8
62†	95	687162	34386	687462	34412	.175	1 3/8	9/16, 1/4	2 1/2
72†	130	687172	34388	687472	34414	.225	1 1/2	5/16, 3/8	4 3/4
80	160	687180	34389	687480	34415	.250	1 3/4	7/16	6 1/4
81	150	687181	34390	687481	34416	.250	2 1/2	7/16	8
84†	190	—	—	687484	34417	.250	1 25/32	5/16, 1/2	6 1/4
100	290	687190	34391	687490	34418	.312	2 1/4	7/16	11 3/4
120	410	687192	—	687492	34419	.375	2 3/8	1/2	19 1/2

†Figure 2  
 Applications: Used to attach various accessories to chain. Low working load limits only.  
 Description: Mild steel, bright, zinc plated.  
 Packaging: 50 pieces in a carton.

CM welded ring



Material size and diameter (in.)	Working load limit (lbs.)*	Carton				Pieces per carton	Approx. weight each (lbs.)
		Bright finish		Zinc plated			
		Product code	UPC 43927-	Product code	UPC 43927-		
3/16 x 1 1/4	200	660150	—	660450	34524	25	.0325
3/16 x 2	150	660152	34518	660452	34525	25	.0525
1/4 x 1 1/2	450	660153	34519	660453	34526	25	.0775
1/4 x 2	350	660155	34520	660455	34527	25	.0975
5/16 x 2	600	660156	34521	660456	34528	25	.1600
3/8 x 2	900	660157	34589	660457	34590	25	.2325
1/2 x 2 1/2	1,300	660158	34522	660458	34601	10	.6000
5/8 x 4	1,700	660159	34523	660459	34602	10	1.4500

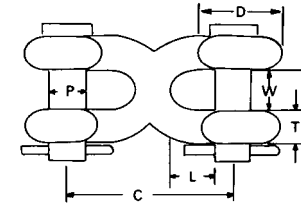
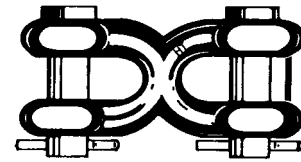
Applications: A chain attachment for general use.  
 Description: Low carbon steel. Finishes are bright or zinc plated.

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 MAGZA INDUSTRIAL  
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### CM mid-link

- For permanent or temporary use.
- Forged and heat treated.
- Heat treated pins.
- “HT” forged on mid-link indicates high test chain. Also used on G30.
- Bright zinc plated to resist rust and for cleaner handling.
- Four numbers fit six sizes of chain.
- Reusable—easy to install or remove.
- Design ultimate strength equals 3 times working load limit.

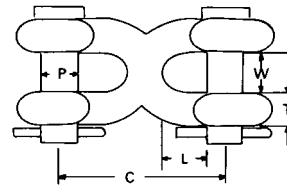
- M605 & M606 compatible with G70 chain.
  - Approved C.V.S.A. repair link.
- On-the-job repair possible for truck boomer tie-down chains. Also handy in the tool box to lengthen chain for special jobs.**



Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)						Factory pack	Weight factory pack (lbs.)
				W	T	L	C	P	D		
1/4 or 5/16	4,700	M605	42838	7/16	5/16	3/8	19/16	3/8	15/16	10	4
3/8	6,600	M606	42849	1/2	3/8	15/32	113/16	7/16	1	10	5
7/16 or 1/2	11,300	M608	42860	5/8	1/2	19/32	2 5/16	9/16	15/16	5	5
5/8	15,800	M610	42871	3/4	5/8	3/4	2 13/16	11/16	1 1/2	5	8.5

### Dixie—double clevis link

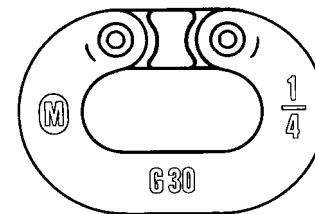
- Use with Grade 30, 43 & 70 chain



Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 81767-	Dimensions (inches)					Factory pack	Weight factory pack (lbs.)
				W	T	L	C	P		
5/16	4,700	82180	82180	7/16	5/16	1/2	1 3/4	3/8	10	4
3/8	6,600	82380	82380	1/2	7/16	1/2	2	7/16	10	6.40
1/2	11,300	82480	82480	5/8	1/2	11/16	2 9/16	9/16	5	7

### CM connecting link

- Hot forged using special bar quality steel.
- Heat treated for strength and increased wear.
- Meets or exceeds Fed. Spec. RR-C-271D.
- Marked with size and grade (G30) for proper application.
- Design load equals 4 times working load limit.
- Precision parts mate together easily for better fit.
- Interlocking lugs and integral rivets on all sizes except 3/16", 1/4" and 5/16" which have rivets only.
- Clear protective finish resists rust. Also available in electro-galvanized finish. Hot dip galvanized available upon request.



**IMPORTANT:** Big Orange connecting links are designed for use as repair links for G30 chain only.

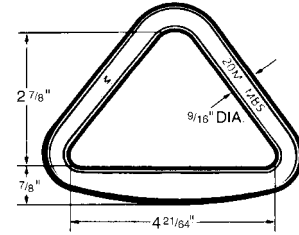
They are not to be used for lifting and not to be used for load securement (tie-down).

Chain size (in.)	Working load limit (lbs.)*	Clear finish		Electro-galvanized		Factory pack	Approx. weight each (lbs.)
		Product code	UPC 43927-	Product code	UPC 43927-		
3/16	800	M613†	43204	M613G	43205	10	.03
1/4	1,300	M614†	43209	M614G	43210	10	.08
5/16	1,900	M615†	43215	M615G	43216	10	.12
3/8	2,650	M616†	43221	M616G	43222	10	.20
7/16	3,700	M617†	43226	M617G	43227	10	.24
1/2	4,500	M618†	43231	M618G	43232	5	.42
5/8	6,900	M620†	43237	M620G	43238	5	.75
3/4	10,600	M622	43241	M622G	43242	Bulk	1.16
7/8	12,800	M624	43245	M624G	43246	Bulk	1.75
1	17,900	M626	43249	M626G	43250	Bulk	2.40

Packed unassembled.  
†M613-M618 are poly bagged; M620 boxed.

**CM D ring**

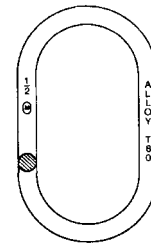
- Finish: painted, zinc plated or galvanized.
- Heat treated.
- Manufactured to meet our interpretation of ICC, OSHA, ANSI B30.9 and California Highway Patrol Title 13 requirements when used with 4" webbing.



Webbing width (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Min. ultimate breaking strength (lbs.)	Approx. weight each (lbs.)
4	4,000	M162	43301	24,000	1.13

**CM alloy forged master link – 100% proof tested**

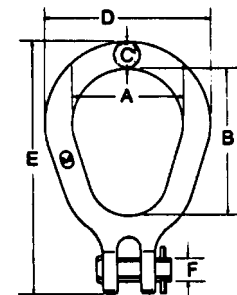
- Drop forged using special bar quality alloy steel.
- Quenched and tempered heat treatment for improved strength.
- Individually proof tested at 2 times working load limit.
- Design ultimate strength is 5 times working load limit.
- Orange paint finish.
- Large inside widths to accommodate more applications.
- Markings are raised characters for better identification to assist proper application.



Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)			Approx. weight each (lbs.)
			Stock dia.	Inside width	Inside length	
5,100	M50P	43316	1/2	2 1/2	5	.94
7,700	M62P	43321	5/8	3	6	1.75
10,600	M75P	43323	3/4	3	6	2.50
20,400	M100P	43313	1	4	8	5.80

**CM clevis link**

- Drop forged from special bar quality steel.
- Heat treated for greater strength and increased wear characteristics.
- Metric marked.
- Clear protective finish resists rust and provides cleaner handling.
- For rigging not involving overhead lifting.



Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Dimensions (inches)						Factory pack**	Approx. weight each (lbs.)
				A	B	C	D	E	F		
5/16	4,400	695443	41361	2 1/8	3 3/16	9/16	3 17/64	5 15/32	25/64	10	.94
3/8	6,600	695444	41362	2 1/8	3 3/16	21/32	3 27/64	5 19/32	15/32	10	1.19

\*\*Bulk pack on request.

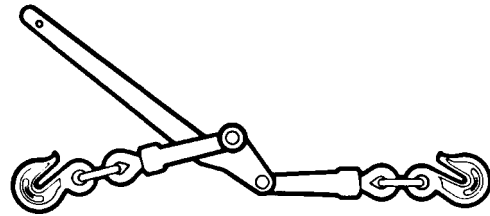
**\*▲WARNING**

**TO AVOID INJURY:**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

### CM lever type load binder

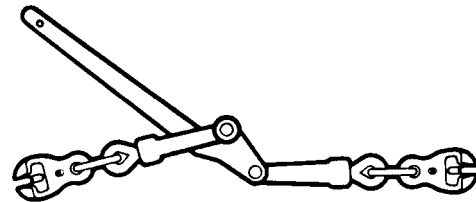
- Provides more control in binding and releasing without extra tools.
- Handle closes down away from load with more leverage.
- Functionally superior to any other on the road.
- Handles are drop forged from special bar quality steel.
- Hooks are heat treated steel.
- Single welded links as in binder chain for better reliability.
- More take-up for binding greater loads. Smaller handle slot with riveted nose to prevent spreading at the critical loading point.
- Meets D.O.T. and C.V.S.A. requirements.



Chain size (in.)	Chain grade	Working load limit (lbs.)*	Product code	UPC 43927-	Handle length (in.)	Take-up (in.)	Approx. weight each (lbs.)
1/4	G30, 43	2,600	M104	42642	11 1/4	3	2 1/2
1/4	G30, 43, 70	5,400	M105	42644	16	4 7/8	8 1/4
5/16	G30, 43, 70	5,400	M105	42644	16	4 7/8	8 1/4
3/8	G30, 43	5,400	M105	42644	16	4 7/8	8 1/4
5/16	G30, 43, 70	9,200	M106	42647	18 1/2	5 1/8	11 1/4
3/8	G30, 43, 70	9,200	M106	42647	18 1/2	5 1/8	11 1/4
7/16	G30, 43	9,200	M106	42647	18 1/2	5 1/8	11 1/4
1/2	G30, 43	9,200	M106	42647	18 1/2	5 1/8	11 1/4

### CM claw hook load binder

- Same reliable design and construction as lever type load binder.
- Equipped with claw hooks for easy one-handed connection to loose or taut chain.
- Meets D.O.T. and C.V.S.A. requirements.



Chain size (in.)	Chain grade	Working load limit (lbs.)*	Product code	UPC 43927-	Handle length (in.)	Take-up (in.)	Approx. weight each (lbs.)
1/4	G30, 43, 70	5,400	M105C	42645	16	4 7/8	8 1/2
5/16	G30, 43, 70	5,400	M105C	42645	16	4 7/8	8 1/2
3/8	G30, 43	5,400	M105C	42645	16	4 7/8	8 1/2

### Load binder operating instructions

1. Follow D.O.T. Federal Motor Carrier Safety Regulations S 392.9, S 393.100, and S 393.102.
2. Inspect before use. Replace worn and deformed binders. Lubricate pivot and swivel points for optimum performance.
3. Do not operate with anyone on load.
4. Always apply lever binder in a straight line hook to hook manner without bending and such that handle goes down when securing load.
5. Tighten binders before moving and recheck frequently.
6. Do not exceed working load limit shown on binder—hand effort will tighten binder to working load limit.
7. Do not use cheater bar or handle extension as their use can overload binder system and result in injury.
8. Secure handle down with a positive retaining method.
9. Release handle/load with extreme care. Make sure everyone is clear. Lever binder handle can snap back over center. Use open palm under handle and push up.

## \* ⚠ WARNING

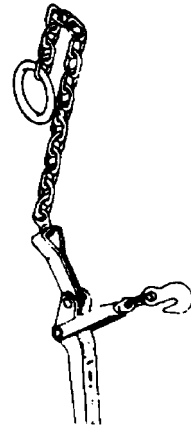
**LOAD BINDING SYSTEMS STORE ENERGY WHICH CAN RELEASE SUDDENLY.**

**To avoid injury,** operate only by hand from a firm standing position. Operate handle cautiously. Stay clear of handle path: handle may release suddenly. Follow instructions.



**Poultry lever load binder**

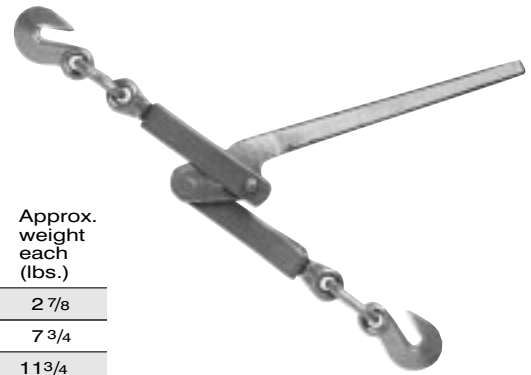
- 48355 has 1/4" binder with 18" G43 chain & ring
- 48356 has 1/4" binder with 18" G43 chain and 5/16" G43 Grab Hook



Chain size (in.)	Chain grade	Working load limit (lbs.)*	Product code	UPC 81767-	Take-up (in.)	Handle length (in.)	Approx. weight each (lbs.)
1/4	G30, 43	2,600	48355	48355	2 3/4	11 1/4	4.7
1/4	G30, 43	2,600	48356	48356	2 3/4	11 1/4	4.7

**CM malleable lever load binder**

- Free turning 360° swivels on both hooks for easier handling and better utility.
- Front tongue for greater take-up.
- Special handle angle prevents finger trap.
- Drop forged, short reach hooks for maximum take-up.
- Meets D.O.T. and C.V.S.A. specifications.



G30 max. size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Take-up (in.)	Handle length (in.)	Approx. weight each (lbs.)
1/4	2,600	D48314	24252	2 3/4	11 1/4	2 7/8
3/8	5,400	D48315	23029	4 1/2	16	7 3/4
1/2	6,000	D48316	24253	4 1/2	19	11 3/4

**Ratchet type load binder**

- Heavy duty, rigid, all steel construction.
- Short reach hooks for maximum take-up.
- Infinite adjustment.
- Continuous take-up.
- Meets D.O.T. and C.V.S.A. specifications.

Max. size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Take-up (in.)	Approx. weight each (lbs.)
—	13,000	D48363**	30002	8	11
5/16 3/8 G70 G43	5,400	D48365	30003	8	12 1/4
3/8 1/2 G70 G43	9,200	D48366	31205	8	12 1/4
5/16 3/8 G70 G43	5,400	D48810	21059	6	7 3/4
3/8 5/16 G80, G43 G70	7,100	D48360	81767- 48360	8	13
1/2 5/8 G70 G43	13,000	D48367	30008	8	14



\*\*Supplied without hooks.

### CM tightener load binder

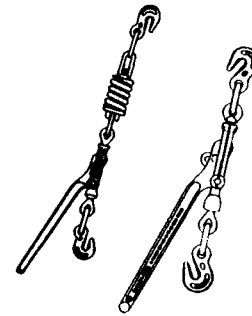
- Features swivel hook for easier operation.
- Either hook may be permanently attached to chain.
- Rugged cast construction with formed hooks.

Working load limit (lbs.)*	Product code	UPC 43927-	Take-up (in.)	Handle length (in.)	Approx. weight each (lbs.)
375	D48949	31206	3	9 1/2	2



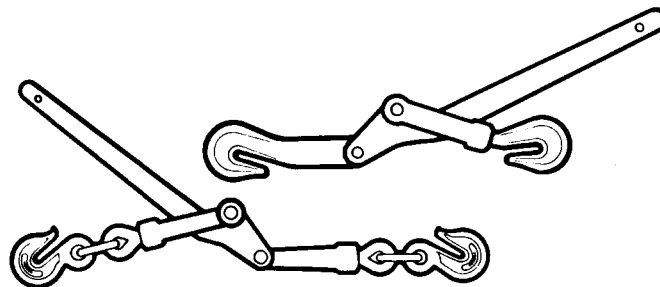
### Specialty forged lever load binder

Chain size (in.)	Chain grade	Working load limit (lbs.)*	Product code	UPC 81767-	Take-up (in.)	Handle length (in.)	Approx. weight each (lbs.)
3/8	G30, 43	5,400	48395	48395	4 1/2	16.62	14.6
5/16	G70	5,400	48395	48395	4 1/2	16.62	14.6



### CM drop forged load binder

- All steel.
- Drop forged.
- Both hooks swivel 360°.
- Each binder individually proof tested.
- Tie-down hole in handle.
- Short reach hooks for maximum take-up.
- Heavy, rigid construction.
- Special manufacturing permits use with transport grade 70 chain.
- Meets D.O.T. and C.V.S.A. specifications.

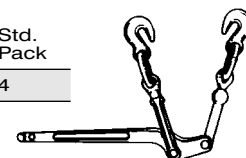


Working load limit (lbs.)*	Product code	UPC 43927-	Chain grade & size (in.)			Handle length (in.)	Take-up (in.)	Approx. weight each (lbs.)
			G30	G43	G70			
2,600	320104	32146	1/4	1/4	—	11 1/4	3	2 1/2
5,400	320105	24251	3/8	3/8	5/16	16 1/8	4 1/4	8
9,200	D48306	21424	1/2	1/2	3/8	16 5/8	4 1/2	10

### CM E-Z Pro cam release lever binder

- Provides recoilless CAM release design.
- Entirely hand releasable.
- Individually proof tested.
- Use with grade 43 and grade 70 chain.

Chain grade & size (in.)		Working load limit (lbs.)*	Product code	UPC 43927-	Take-up (in.)	Approx. weight each (lbs.)	Std. Pack
G43	G70						
3/8	5/16	5,400	D48405	23028	4 1/2	11	4

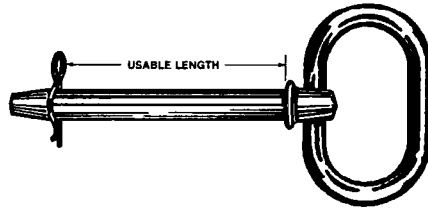


3

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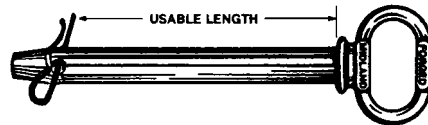
**CM forged hitch pin—wire handle**

- Heat treated for strength properties.
- Forged of high strength steel.
- Complete with grip clip.



Product code	UPC 43927-	Dimensions (inches)		Standard pack	Approx. weight per pack (lbs.)
		Dia.	Usable length		
M1190	42875	7/16	3 1/2	20	6
M1195	42879	1/2	3 1/2	20	8
M1200	42885	5/8	3 3/4	20	12
M1205	42894	3/4	4	10	9
M1210	42901	7/8	4 1/4	10	12
M1215	42909	1	4 3/4	10	16
M1218	42915	5/8	6	10	8
M1220	42922	3/4	6 1/4	10	12
M1225	42930	7/8	6 1/2	5	8.5
M1230	42938	1	6 3/4	5	11
M1240	42946	1 1/8	7	5	14
M1250	42955	1 1/4	7	5	18

**CM forged hitch pin—solid handle**



Product code	UPC 43927-	Dimensions (inches)		Standard pack	Approx. weight per pack (lbs.)
		Dia.	Usable length		
M1206	42965	3/4	4	10	9
M1211	42968	7/8	4 1/4	10	12
M1216	42971	1	4 3/4	10	16
M1219	42963	5/8	6	10	8
M1221	42974	3/4	6 1/4	10	12
M1226	42977	7/8	6 1/2	5	8.5
M1231	42981	1	6 3/4	5	11
M1241	42985	1 1/8	7	5	14
M1251	42989	1 1/4	7	5	18
M1261*	42994	1 3/8	7	5	23
M1271*	43001	1 1/2	8	5	33

\*These pins are furnished with linch pins.

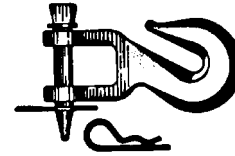
**\*▲WARNING**

- Do not exceed working load limits specified.
- Working load limits apply to load binders only.
- See match-up chart for chain working load limits.
- For complete load binder operating instructions, see page 83.

### CM tractor drawbar grab hook no. M834

Hot forged of high strength steel and heat treated.

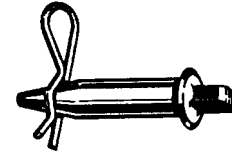
- Fits all tractor drawbars, old or new, front or back, to and including 1 5/8" thick.
- Use with chain sizes 5/16" to 1/2" including G43 high test chain.
- Working load limit 9,200 lbs. maximum.\*



### CM M2X834 pin

To fit no. M834 tractor drawbar grab hook with hairpin lock.

- Heat treated.



Product code	UPC 43927-	Dia. (in.)	Usable length (in.)	Standard pack	Approx. weight
M2X834	43013	3/4	2 1/2	Bulk	10 oz.

### CM mid-link (chain connecting link)

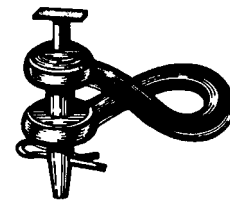
- For quick, on-the-job repairs.
- For connecting log chains.
- For attaching chain hooks, rings, swivels, fittings, etc.
- For permanent or temporary use.
- Forged and heat treated zinc plated.
- Heat treated pins.
- Approved C.V.S.A. repair link.



Chain size (in.)	Working load limit (lbs.)*	Product code	UPC 43927-	Standard pack	Weight factory pack (lbs.)
1/4 or 5/16	4,700	M605	42838	10	4
3/8	6,600	M606	42849	10	5
7/16 or 1/2	11,300	M608	42860	5	5
5/8	15,800	M610	42871	5	8.5

### CM clevis with zinc plated heat treated pins and hairpin locks

Extra strong—forged of high strength steel—extra tough.



Product code	Working load limit (lbs.)*	Type	UPC 43927-	Dimensions (inches)										Weight each (lbs.)
				Pin size P	Pin no.	Body size	Width between eyes	Usable length straight	Usable length twist	Loop width straight	Loop width twist	Keeper pin no.		
M8158 M8258	6,000	Straight Twist	42701 42750	1/2	2X811	5/8	7/8	3 1/4	3	2	1 7/8	3X1195	1 1/2	
M8134 M8234	12,000	Straight Twist	42705 42757	5/8	2X813	3/4	1 5/16	3 3/4	3 1/2	2 1/4	2	3X1200	2 1/2	
M8878 M8078	16,000	Straight Twist	42742 42789	3/4	2X817	7/8	1 5/16	3 1/4	3	2	1 3/4	3X1200	3	
M8178 M8278	16,000	Straight Twist	42712 42764	3/4	2X817	7/8	1 5/16	4 1/4	3 7/8	2 3/4	2 5/8	3X1200	2 1/2	
M8190 M8290	20,000	Straight Twist	42723 42774	7/8	2X819	1 5/16	1 7/16	4 5/8	4 1/4	3 1/8	2 3/4	3X1230	4 1/4	
M8195 M8295	25,000	Straight Twist	42734 42782	1	2X829	1	2 1/8	5 5/16	5	3 5/16	3 1/4	3X1230	5 3/4	

## \*▲WARNING

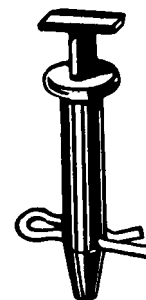
#### TO AVOID INJURY:

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

### CM T handle clevis pin

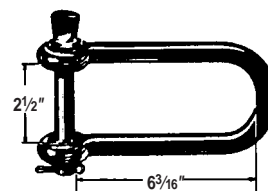
- May be used for clevis replacement.
- Pins are zinc plated and have hairpin lock.
- Heat treated.

Product code	UPC 43927-	For clevis straight	For clevis twist	Diameter usable length (in.)	Standard pack	Weight per pack (lbs.)
M811	43014	M8158	M8258	1/2 x 2 1/4	20	7
M813	43015	M8134	M8234	5/8 x 3 1/8	20	11
M817	43017	M8878	M8078	3/4 x 3 1/4	10	7
M817	43017	M8178	M8278	3/4 x 3 1/4	10	7
M819	43020	M8190	M8290	7/8 x 3 3/4	10	12
M829	43023	M8195	M8295	1 x 4 1/4	10	15



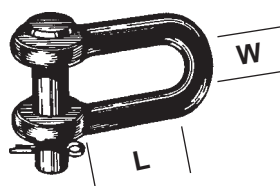
### CM No. M465 general purpose clevis

- Hot forged—with heat treated round pin for extra strength.
- 3/4" body and pin.
- Working load limit 10,000 lbs. maximum.\*
- Factory pack—5.



### CM loose pin utility clevis

- M1548 and M1549 are used for joining hitch to harrow sections.
- Forged from high strength steel with heat treated alloy pin.



Product code	UPC 43927-	Dimensions (inches)				Weight each (lbs.)
		Dia.	Pin dia.	W	L	
M1546	40816	1/4	5/16	15/32	7/8	1/8
M1547	40817	5/16	3/8	17/32	1	1/5
M1548	40818	3/8	7/16	21/32	1 1/4	1/3
M1549	42823	7/16	1/2	23/32	1 1/2	2/5
M1550	42828	1/2	5/8	13/16	1 11/16	5/8
M1551	42829	5/8	3/4	1 1/16	2	1 1/4

### CM farm clevis

- Screw pin shackle type.
- Alloy pin.

**For use on:**

- Multiple hitches where 3 or 4 implements are pulled with one tractor.
- Crawler type tractors.



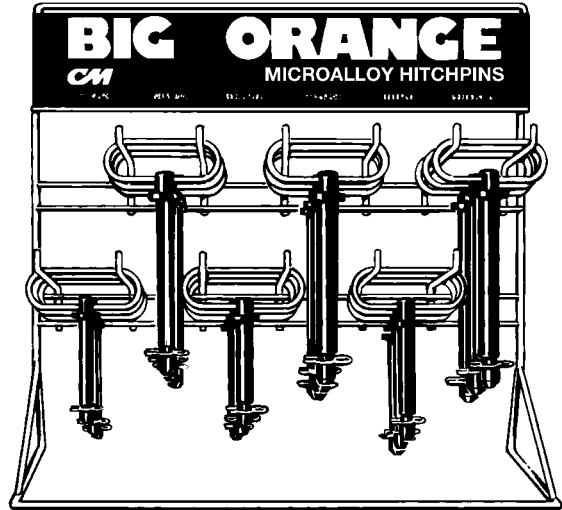
Product code	UPC 43927-	Dimensions (inches)				Weight each (lbs.)
		Dia.	Pin dia.	W	L	
M1646	42796	1/4	5/16	15/32	1 1/8	1/8
M1647	42797	5/16	3/8	17/32	1 1/4	1/5
M1648	42798	3/8	7/16	21/32	1 7/16	1/3
M1649	42799	7/16	1/2	23/32	1 11/16	1/2
M1650	42804	1/2	5/8	13/16	1 15/16	3/4
M1651	42805	5/8	3/4	1 1/16	2 1/2	1 1/2
M1652	42806	3/4	7/8	1 1/4	3	2 1/4
M1653	42807	7/8	1	1 7/16	3 1/4	3 1/2
M1654	42808	1	1 1/8	1 11/16	3 3/4	5 1/4
M1655	42809	1 1/8	1 1/4	1 13/16	4 1/4	7
M1656	42810	1 1/4	1 3/8	2	4 1/2	9 1/2

M1655 & M1656 are bulk packed.

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**Hitch pin counter display no. M3005A**

- Wire easel pops open and locks into place.
- Holds six most popular sizes of hitch pins.
- Hooks are already attached to display panel.
- Product codes appear on display panel for ease of reordering.
- Display measures 7" deep, 21" wide and 15" high.
- Shipping weights: 42 lbs. for no. M3005A.



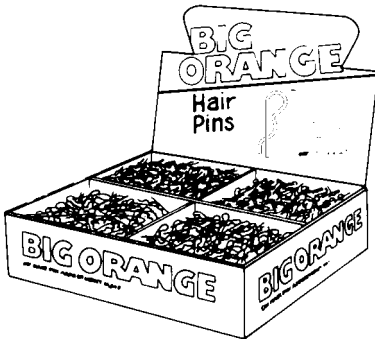
**No. M3005A solid handle hitch pins**

Diameter (in.)	Product code	Usable length (in.)	Quantity of each in asst.	Weight each (lbs.)	Total weight (lbs.)
3/4	M1206	4	5	.9	4.5
7/8	M1211	4 1/4	5	1.2	6.0
3/4	M1221	6 1/4	5	1.2	6.0
7/8	M1226	6 1/2	5	1.7	8.5
1	M1231	6 3/4	4	2.2	8.8
1 1/8	M1241	7	4	2.8	11.2

**Hair pin and linch pin merchandisers**

- Convenient counter top merchandisers are completely self contained and can be set up in minutes.
- For use with Big Orange hitch pins.
- Displays measure 11" x 10 1/2" x 3".

**No. M3007\* hair pin merchandiser**

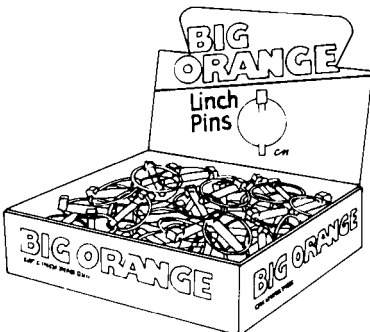


- Compact display holds four most requested sizes.
- Pins are high tensile strength spring wire steel for superior holding power.
- Zinc plated to resist corrosion.

Size (in.)	Compatible hitch pin size (in.)	Product code	Quantity of each in asst.
1/8	7/16-1/2	3X1195	100
5/32	5/8-3/4	3X1200	50
3/16	7/8-1	3X1230	50

\*For use with hitch pins only.

**No. M3008\* linch pin merchandiser**



- Pins are forged for maximum strength.
- Zinc plated to resist corrosion.

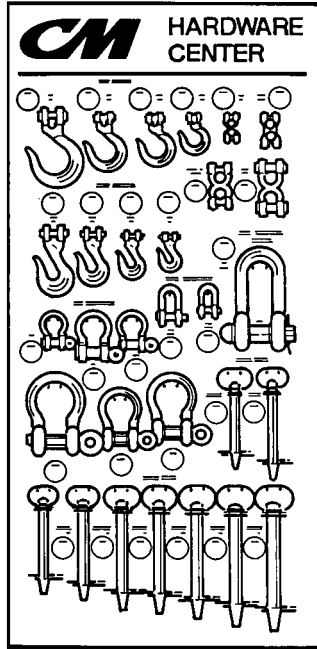
Size (in.)	Product code	Quantity of each in asst.
7/16	M3008	150

\*For use with hitch pins only.

**FARM HARDWARE**

**Hardware center no. M3025**

- Complete general hardware assortment features hooks, mid-links and hitch pins.
- Organizer display can be used on existing gondola or pegboard stand.



Product	Chain size (in.)	Body size (in.)	Working load limit (lbs.)*	Product code	Quantity of each in asst.	Weight each (lbs.)
Mid-links	1/4 or 5/16		4,700	M605	4	.35
	3/8		6,600	M606	6	.45
	7/16 or 1/2		11,300	M608	2	1.00
	5/8		15,800	M610	2	1.70
Screw pin anchor shackles, painted		7/16	4,000	M649P	4	.50
		1/2	6,000	M650P	3	.75
		5/8	9,000	M651P	3	1.30
		3/4	13,000	M652P	4	2.20
		7/8	17,000	M653P	2	3.50
Round pin chain shackles, painted		1	20,000	M654P	2	5.00
		7/16	4,000	M549P	4	.40
General purpose clevis		1/2	6,000	M550P	3	.60
		3/4	13,000	M465	3	3.30
Clevis grab hooks, zinc plated	1/4		2,600	M804Z	6	.40
	5/16		3,900	M805Z	6	.65
	3/8		5,400	M806Z	6	1.00
	1/2		9,200	M808Z	2	2.00
Clevis slip hooks	1/4		2,600	M904Z	3	.50
	5/16		3,900	M905Z	3	.75
	3/8		5,400	M906Z	3	1.25
	1/2		9,200	M908Z	2	2.80
Hitch pins, solid handle		3/4 x 4	—	M1206	5	.90
		7/8 x 4 1/4	—	M1211	2	1.20
		1 x 4 3/4	—	M1216	2	1.60
		5/8 x 6	—	M1219	5	.80
		3/4 x 6 1/4	—	M1221	5	1.20
		7/8 x 6 1/2	—	M1226	3	1.70
		1 x 6 3/4	—	M1231	3	2.20
		1 1/8 x 7	—	M1241	2	2.80
	1 1/4 x 7	—	M1251	2	3.60	



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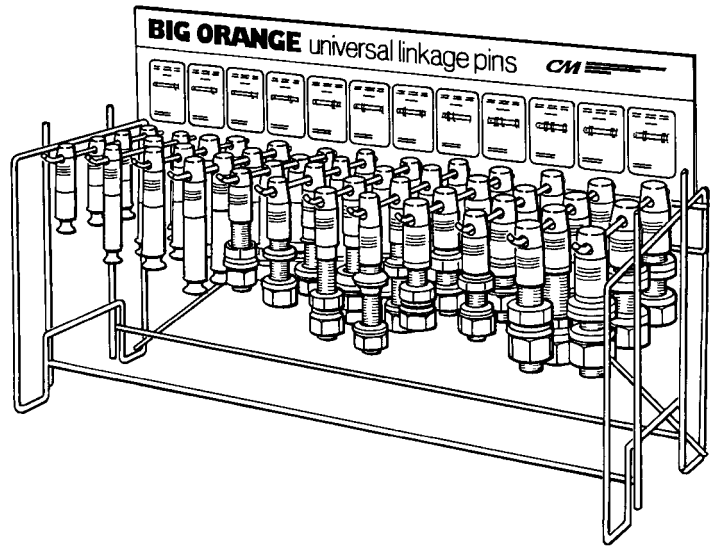
**\* ⚠ WARNING**

**TO AVOID INJURY:**

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.

### Universal linkage pin

- Big Orange provides a full range of universal linkage pins, lift arm pins and top link pins.
- Finished with bright zinc plate to resist corrosion.
- Lift arm pins come forged or adjustable.
- Forged lift arm pin shoulders are integrally forged of high strength steel.
- Adjustable lift arm pins are precision machined from stress relieved heat treated high strength steel for extra strength.
- Top link pins machined to precise dimensions.



### No. M3300 universal linkage pin merchandiser

- Merchandiser comes free with each order of total line.
- Self service display mounts on pegboard or on shelves, or can stand on counter top.
- Clear, readable product information facilitates selection.

Product	Diameter (in.)	Usable length (in.)	Product code	Quantity of each in asst.	Total weight (lbs.)
Top link pin category I	3/4	2 3/4	602170	4	2
Top link pin category I	3/4	3 7/8	602171	4	2.4
Top link pin category II	1	3 9/16	602172	4	4.8
Top link pin category II	1	4 5/16	602173	4	4.8
Lift arm pin category I	7/8	1 5/8	602174	5	5
Lift arm pin category I	7/8	1 3/4	602175	5	6
Lift arm pin category I	7/8	2 1/8	602176	4	5.6
Lift arm pin category I	7/8	2 1/4	602177	5	6
Lift arm pin category I-II	1 1/8	1 3/4	602178	4	5.6
Lift arm pin category I-II	1 1/8	1 3/4	602179	4	6.4
Lift arm pin category II	1 1/8	1 3/4	602180	5	11
Lift arm pin category II-III	1 7/16	1 13/16	602181	3	8.4
Merchandiser	—	—	M3300	1	75

### Tractor category definitions of ASAE standards

	Tractor horsepower	Linkage top link pin diameter (in.)	Component lift arm pin diameter (in.)
Category 0	Up to 20	5/8	5/8
Category I	20 to 45	3/4	7/8
Category II	45 to 100	1	1 1/8
Category III	80 and over	1 1/4	1 7/16

## \*▲WARNING

### TO AVOID INJURY:

- Do not exceed working load limit.
- Use only alloy chain and attachments for overhead lifting.





## **CM Herc-Alloy 800 specialty forgings**

**Design information .....98-99**

## **CM chain and components for conveying**

<b>Chain coupler.....</b>	<b>100</b>
<b>Drive sprocket.....</b>	<b>102</b>
<b>Flight bars .....</b>	<b>101</b>
<b>General information.....</b>	<b>100</b>
<b>Padless shackle connector .....</b>	<b>101</b>
<b>Round link chain .....</b>	<b>100</b>
<b>Special chain connector .....</b>	<b>101</b>



Custom designs for every application. Standard forged attachments may not fill every lifting requirement, but CM's custom design and production services can.

CM combines craftsmanship with expertise in the most advanced design, engineering and metallurgy to deliver exactly what you need.

**Design**

The CM design team works closely with every specialty customer to devise individualized solutions for specific applications, light or heavy. Custom configurations include hooks, die pins, shackles, eyebolts, stirrup hooks, plate hooks and grab links. Turnaround is quick to meet your timetable, and specification records are kept for a minimum of ten years to expedite duplicate orders.

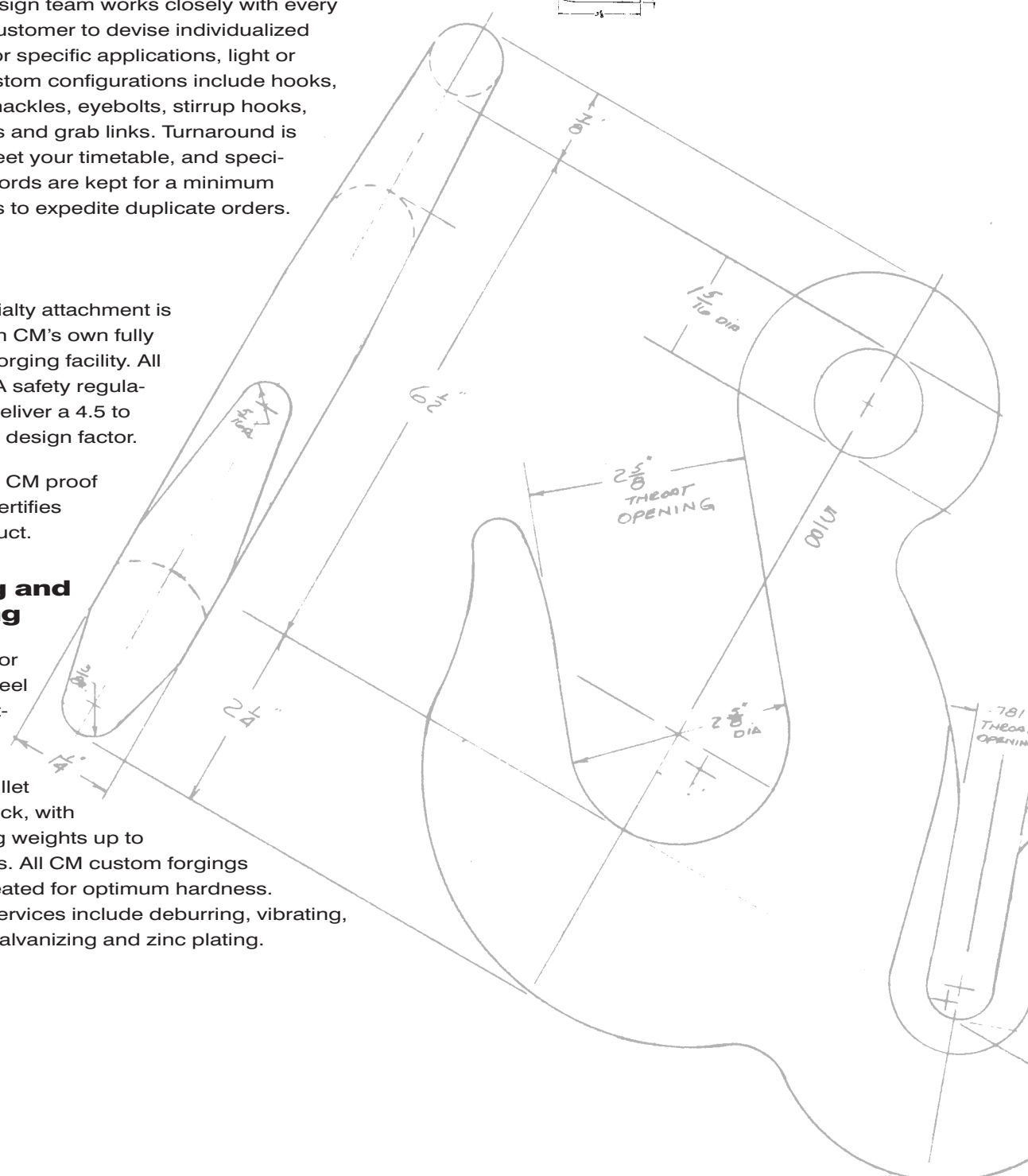
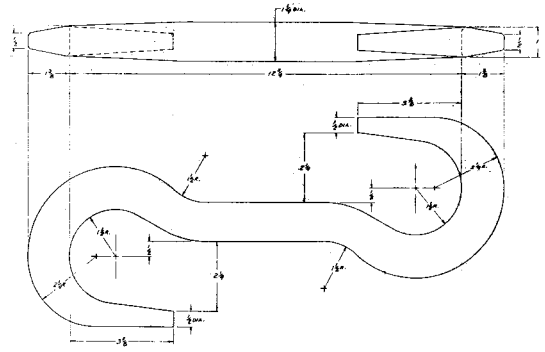
**Quality**

Every specialty attachment is produced in CM's own fully equipped forging facility. All meet OSHA safety regulations and deliver a 4.5 to 1 minimum design factor.

In addition, CM proof tests and certifies every product.

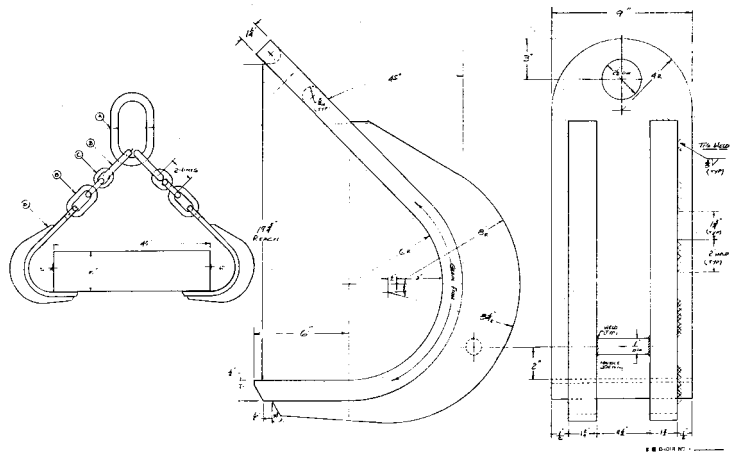
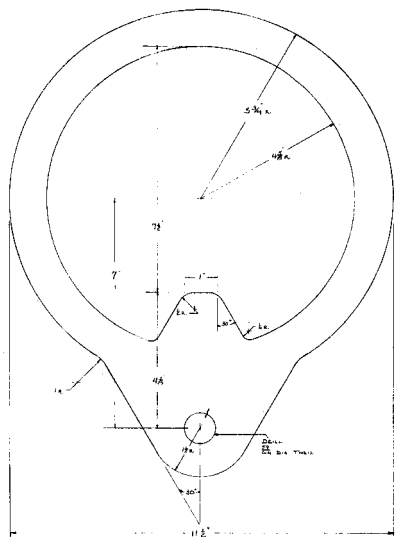
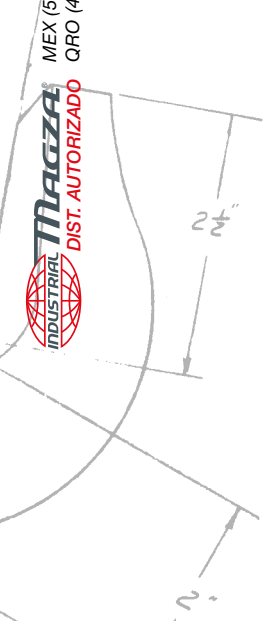
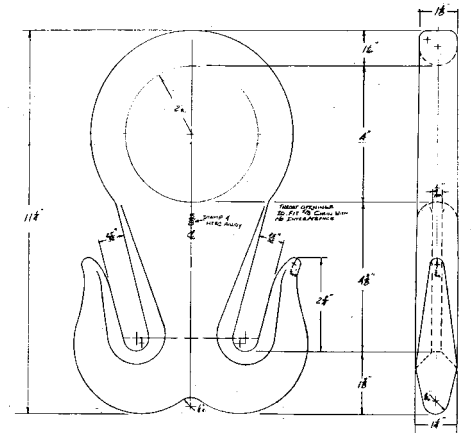
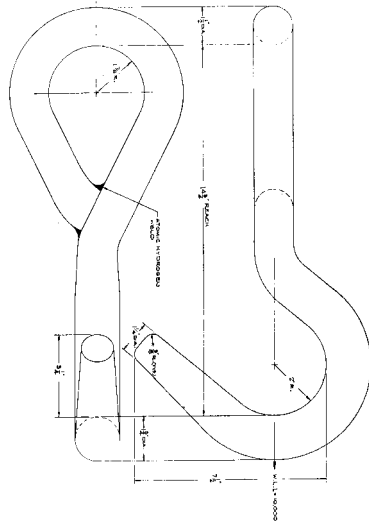
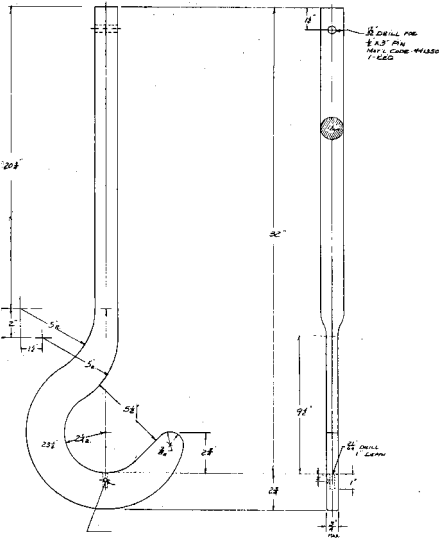
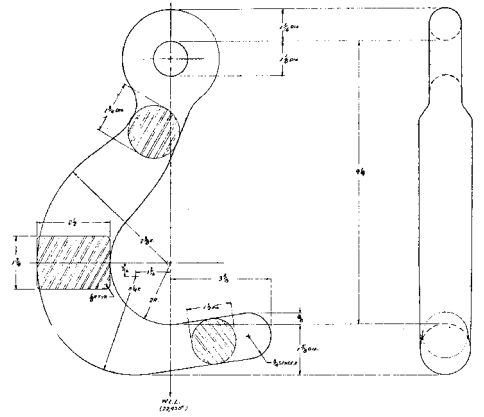
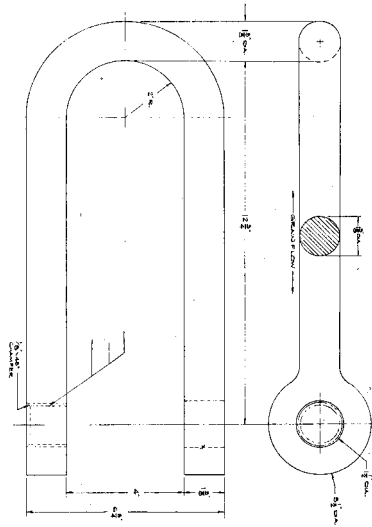
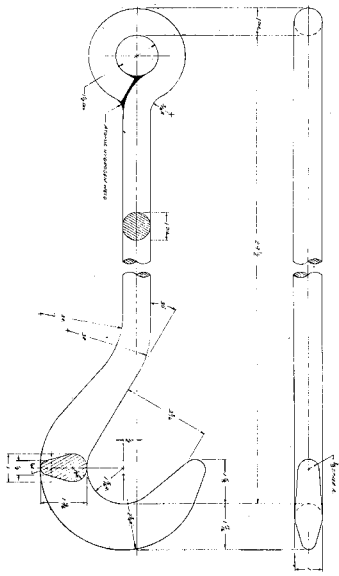
**Forging and finishing**

Herc-Alloy or stainless steel specialty attachments are forged from bar, billet or plate stock, with final forging weights up to 175 pounds. All CM custom forgings are heat treated for optimum hardness. Finishing services include deburring, vibrating, cleaning, galvanizing and zinc plating.



4

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All technical information listed here is compiled from our records. Weights and physical dimensions are actually subject to normal material variations.

Minimum breaking forces listed here are the minimum load at which the component will break when properly tested in a standard testing machine, pulled in direct tension at a uniform rate of speed with the component in the same condition in which it leaves the manufacturing facility.

When determining working loads for components, such factors as shock, wear, cycling, and the application must

be considered. These considerations typically lead to applied design factors of 4 or 5 to 1. That is, the steady state load to be applied is approximately 20 to 25% of the minimum breaking force. Component life is greatly affected by the application and loading. As such, life expectancy can be determined only by experience or extensive testing.

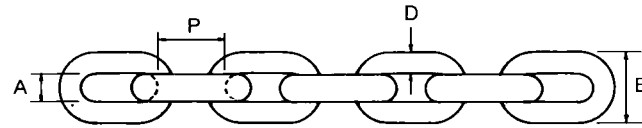
Periodic inspection for wear and visual damage must also be carried out to assure proper operation.

Engineering assistance is available for customers at (716) 696-3200.

## Round link chain

Two types of chain are available:

**CH — case hardened:** Special heat treatment process: surface hardness of 500 Brinell and core hardness of 400 Brinell. Carbon content and case depth are controlled to produce a chain with the best combination of strength and wear properties.



**TH — through hardened:** This is a chain with high strength and good wear properties.

Dimensions (mm)

Diameter and pitch D x P (mm)	Length	Inside width A	Outside width max B	Minimum breaking force (lbs.)		Elongation at ultimate % min.		Weight (lbs.)
				CH	TH	CH	TH	
14 x 50	Feet	17	48	36,500	50,000	3	10	2.64
	3 link							1.32
	5 link							2.20
18 x 64	Feet	21	58	65,000	92,170	3	10	4.17
	3 link							2.63
	5 link							4.38
22 x 86	Feet	26	74	75,000	121,500	3	10	6.28
	5 link							8.87
	7 link							12.42
26 x 92	Feet	30	86	90,000	169,800	3	10	9.55
	5 link							14.42
	7 link							20.19

## Chain coupler (biplaner)

FIG. 1

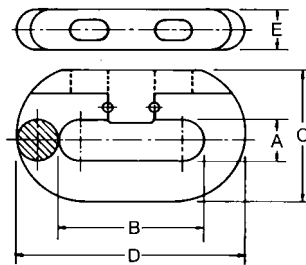
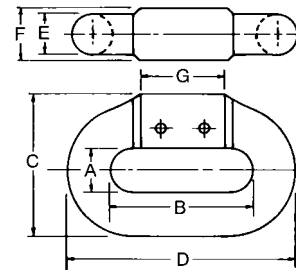


FIG. 2

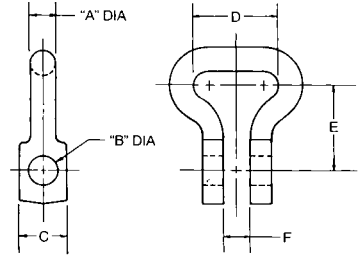


Chain size (mm)	Type of coupler	Product code	A	B	C	D	E	F	G	Weight (lbs.)
14 x 50	FIG. 1	D49815	.59	1.97	1.83	3.11	.55	—	—	.50
18 x 64		D49928	.75	2.52	2.32	4.02	.71	—	—	1.31
22 x 86	FIG. 2	D49623	.94	3.39	3.07	5.20	.87	1.10	2.28	2.38
26 x 92		D49624	1.10	3.62	3.54	5.75	1.02	1.30	2.48	3.50
30 x 108		D49626	1.26	4.25	4.02	6.69	1.18	1.42	2.76	5.38
34 x 126		D49633	1.42	4.96	4.51	7.72	1.34	1.57	2.99	7.13

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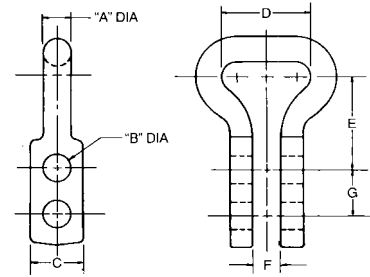
**Padless shackle connector—1-bolt**

Chain size (mm)	Product code	Dimensions (inches)						Weight (lbs.)	Bolt size
		A	B	C	D	E	F		
14 x 50	D49627	.56	.69	1.16	1.97	1.89	.69	.75	5/8-11 UNC x 2 1/2" GR8
18 x 64	D49629	.72	.69	1.26	2.52	2.00	.78	1.38	5/8-11 UNC x 3" GR8
22 x 86	D49632	.88	.97	2.00	3.39	2.94	1.14	2.75	7/8-9 UNC x 4" GR8
26 x 92	D49884	1.06	1.06	2.25	3.62	3.50	1.12	4.75	1-8 UNC x 4 1/2" GR5



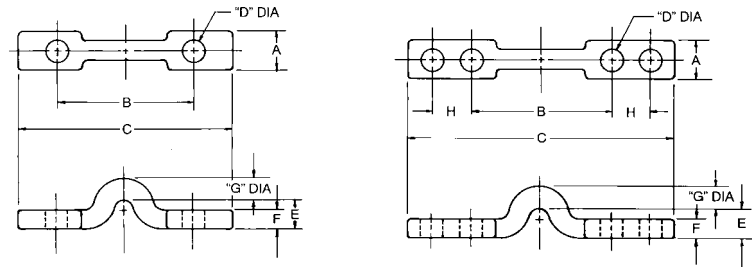
**Padless shackle connector—2-bolt**

Chain size (mm)	Product code	Dimensions (inches)							Weight (lbs.)	Bolt size
		A	B	C	D	E	F	G		
14 x 50	D49936	.56	.69	1.16	1.97	1.89	.69	1.38	1.13	5/8-11 UNC x 2 1/2" GR8
18 x 64	D49930	.72	.64	1.26	2.52	2.00	.78	1.75	2.13	5/8-11 UNC x 3" GR8
22 x 86	D49937	.88	.69	2.00	3.39	2.94	1.14	1.56	4.25	5/8-11 UNC x 3 1/2" GR8
26 x 92	D49952	1.06	.94	2.25	3.62	3.75	1.12	2.38	7.63	7/8-9 UNC x 4" GR8



**Special chain connectors**

Half connector

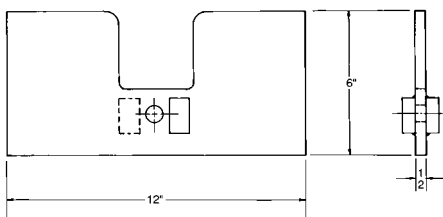


Chain size (mm)	Product code	Type	Dimensions (inches)								Weight (lbs.)	Bolt size
			A	B	C	D	E	F	G	H		
14 x 50	D49819	2-bolt	1.19	3.74	5.88	.64	.76	.50	.56	—	.63	5/8-11 UNC x 2 1/2" GR8
18 x 64	D49927	4-bolt	1.41	4.44	9.44	.64	1.00	.72	.72	1.62	1.88	5/8-11 UNC x 2 3/4" GR8
18 x 64	—	2-bolt	1.41	4.44	6.88	.64	1.00	.72	.72	—	1.38	5/8-11 UNC x 2 3/4" GR8

**Flight bars for 14mm and 18mm chain conveyors**

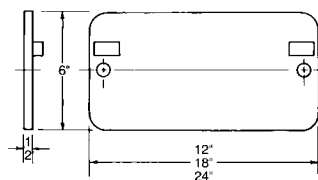
**Single chain conveyor**

Uses single bolt shackle connector

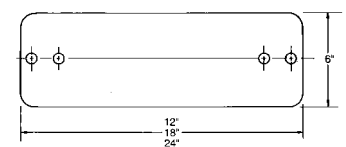


**Double chain conveyor**

Uses single bolt shackle connector



Uses double bolt shackle connector



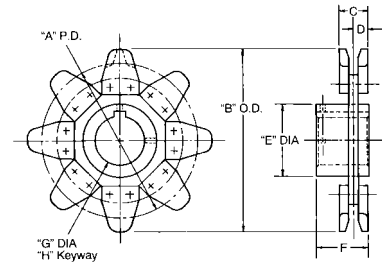
**\* ⚠ WARNING**

**TO AVOID INJURY:**

- Use only alloy chain and attachments for overhead lifting.
- Assign working load limits at 20-25% of the minimum breaking forces.
- Inspect components periodically for wear and damage.

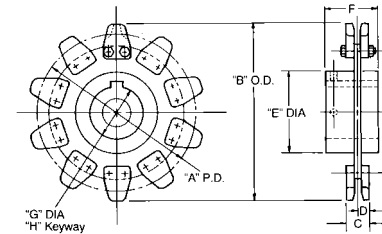
**Drive sprocket—welded-on pocket segments**

Chain size (mm)	Number of pockets	Dimensions (inches)							
		Dia. A	Dia. B	C	D	Dia. E	F	Dia. G	H
14 x 50	8	10.06	11.51	2.00	1.00	3.38	3.38	1.938	1/2 x 1/4
	10	12.56	14.00	2.00	1.00	6.00	3.53	3.438	7/8 x 7/16
	13	16.32	17.70	2.00	1.00	8.25	3.03	3.438	7/8 x 7/16
18 x 64	8	12.83	14.50	2.50	1.25	6.00	4.25	2.750	5/8 x 5/16
	10	16.04	17.69	2.50	1.25	8.25	4.16	4.000	1 x 1/2
22 x 86	8	17.24	19.50	3.00	1.50	7.44	5.25	4.938	1 1/4 x 5/8
	10	21.56	23.75	3.00	1.50	11.00	6.50	6.000	1 1/2 x 3/4



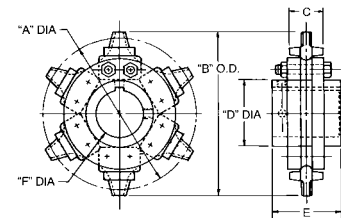
**Drive sprocket—replaceable pocket segments**

Chain size (mm)	Number of pockets	Dimensions (inches)							
		Dia. A	Dia. B	C	D	Dia. E	F	Dia. G	H
14 x 50	13	16.32	17.70	2.00	1.00	7.00	3.38	3.938	1 x 1/2
18 x 64	8	12.83	14.50	2.50	1.25	7.00	4.16	3.438	7/8 x 7/16
22 x 86	10	21.56	23.75	3.00	1.50	11.00	6.50	6.000	1 1/2 x 3/4
26 x 92	10	23.06	25.62	3.75	1.88	11.50	7.50	7.500	1 3/4 x 1 1/2



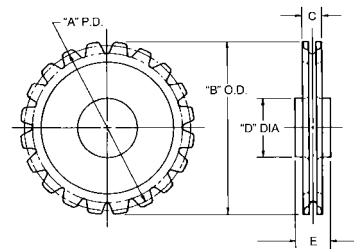
**Drive sprocket—replaceable teeth**

Chain size (mm)	Number of teeth	Dimensions (inches)					
		Dia. A	Dia. B	C	Dia. D	E	Dia. F
14 x 50	6	7.52	8.19	1.69	3.25	3.50	2.188
14 x 50	16	20.05	21.35	1.69	6.00	3.50	2.438



**Cast drive sprocket**

Chain size	Number of pockets	Product code	Cast wt. (lbs.)	Dimensions (inches)					Material
				Dia. A	Dia. B	C	Dia. D	E	
14 x 50 mm	7	D49801	23	8.77	9.62	1.88	—	—	1025 steel
.375 x 1.012 (inches)	15	D49813	25	9.66	10.32	1.50	4.25	2.75	60-45-12 D.I.
	20	D49814	38	12.89	13.52	1.50	4.50	2.75	60-45-12 D.I.



**\*▲WARNING**

**TO AVOID INJURY:**

- Use only alloy chain and attachments for overhead lifting.
- Assign working load limits at 20-25% of the minimum breaking forces.
- Inspect components periodically for wear and damage.

## **CM Dixie Industries**

### **Fence Tools**

**Wire stretcher/splicer .....108**

### **Fire Fighting Tools**

**Saw wedges .....108**

### **Logging Tools**

**Cant hooks .....105**

**Hookaroons.....104**

**Peavies .....106**

**Pike Poles.....107**

**Replacement parts.....106**

**Skidding Tongs.....105**

**Timber Carriers .....105**

### **Rigging Hardware**

**Choker Hook .....108**



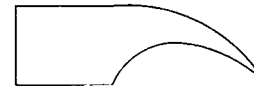
**Hookaroons—1.5 Dixie standard**

Description	Product code	UPC 81767-	Handle only	Approx. weight each (lbs.)
36" Standard hickory handle	12220	12220	12221	2.8
36" Fiberglass safety yellow	12240	12240	—	3.3



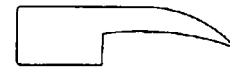
**Hookaroons—1.5 Dixie curved**

Description	Product code	UPC 81767-	Handle only	Approx. weight each (lbs.)
36" Standard hickory handle	12320	12320	12221	2.8
36" Fiberglass safety yellow	12340	12340	—	3.3



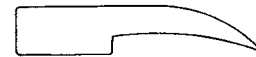
**Hookaroons—Western Star**

Description	Product code	UPC 81767-	Handle only	Approx. weight each (lbs.)
18" Standard hickory knob end handle	12900	12900	12291	2.1
36" Standard hickory handle	12920	12920	12221	2.6
36" Fiberglass safety yellow	12950	12950	—	3.1



**Hookaroons—1.0 Dixie standard hume**

Description	Product code	UPC 81767-	Handle only	Approx. weight each (lbs.)
36" Standard hickory handle	12820	12820	12221	2.3
36" Fiberglass safety yellow	12850	12850	—	3



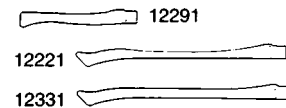
**Hookaroon—Oregon fabricated with forged tip**

Description	Product code	UPC 81767-	Handle only	Approx. weight each (lbs.)
36" Standard hickory handle	12925	12925	12221	1.9



**Hookaroons—Replacement handles**

Description	Product code	UPC 81767-	Approx. weight each (lbs.)
18" Standard hickory knob end handle	12291	12291	.5
36" Standard hickory handle	12221	12221	1.3
36" Safety handle orange	12331	12331	1.3



**\*WARNING**

**IMPROPER USE OF HOOKAROONS (STRIKING TOOL) MAY RESULT IN PERSONAL INJURY.**

**To avoid injury:**

- Wear eye protection (safety goggles) and other personal protection items when using or in the vicinity of striking tools as pieces may dislodge and fly.
- Do not grind or heat tool head as this will affect tool temper.
- Do not strike tool against metal or another tool.



**Cant Hooks**

Product code	UPC 81767-	Diameter x length	Approx. weight each (lbs.)	Standard industrial pack
06100	06100	2 1/4" x 2'	5	2
06110	06110	2 1/4" x 2 1/2'	5.5	2
06120	06120	2 1/4" x 3'	6	2
06130	06130	2 1/4" x 3 1/2'	6.5	2
06140	06140	2 1/4" x 4'	7	2
06240	06240	2 1/2" x 4'	8.5	2
06250	06250	2 1/2" x 4 1/2'	9	2
06260	06260	2 1/2" x 5'	10	2



**Skidding tongs**

• Painted blue

**Logger style with heat treated ring**

Product code	UPC 81767-	Material diameter	Minimum opening	Maximum opening	Approx. weight each (lbs.)
42815	42815	1	5	14	15
42805	42805	1 1/4	7	16	24
42825	42825	1 1/2	7 1/2	24	34



**Ring only**

Product code	UPC 81767-	Material diameter	Minimum opening	Maximum opening	Approx. weight each (lbs.)	Pack
40005	40005	3/4	3 9/16	16	8	3
40225	40225	1	4 1/2	25	16	3
40455	40455	1 1/4	7	32	32	1
40555	40555	1 1/2	8	36	48	1



**Swivel grab hook only**

Product code	UPC 81767-	Material diameter	Minimum opening	Maximum opening	Approx. weight each (lbs.)	Pack
40004	40004	3/4	3 9/16	16	9	3
40224	40224	1	4 1/2	25	18	3
40454	40454	1 1/4	7	32	34	1



**Timber carriers**

**Hardwood handle**

Product code	UPC 81767-	Diameter x length	Approx. weight each (lbs.)
09041	09041	2 1/2" x 4'	10
09051	09051	2 1/2" x 4 1/2'	10.5



**Replacement handles**

Product code	UPC 81767-	Diameter x length	Approx. weight each (lbs.)
09341	09341	2 1/2" x 4'	5
09351	09351	2 1/2" x 4 1/2'	5.5

**\* ⚠ WARNING**

**IMPROPER USE MAY RESULT IN INJURY.**

**To avoid injury:**

- Use skidding tongs to pull logs or like material only – Do not use for lifting.
- Use timber carrier to lift vertically only – Do not flex handle perpendicular (90°) to grain direction.

**Peavies**

**Solid socket**

Product code	UPC 81767-	Diameter x length	Approx. weight each (lbs.)	Standard industrial pack
00120	00120	2 1/4" x 3'	5.83	2
00130	00130	2 1/4" x 3 1/2'	6.25	2
00140	00140	2 1/4" x 4'	6.66	2
00240	00240	2 1/2" x 4'	7.50	2
00250	00250	2 1/2" x 4 1/2'	8.33	2
00260	00260	2 1/2" x 5'	9.58	2



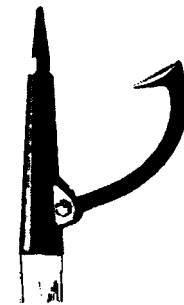
**Rafting or Bangor**

Product code	UPC 81767-	Diameter x length	Approx. weight each (lbs.)	Standard industrial pack
03240	03240	2 1/2" x 4'	6.25	2
03250	03250	2 1/2" x 4 1/2'	6.66	2
03260	03260	2 1/2" x 5'	7.08	2

**Peavies—Replacement handles**

**Solid socket**

Product code	UPC 81767-	Diameter x length	Approx. weight each (lbs.)	Standard industrial pack
00122	00122	2 1/4" x 3'	3.5	2
00132	00132	2 1/4" x 3 1/2'	3.8	2
00142	00142	2 1/4" x 4'	4	2
00242	00242	2 1/2" x 4'	5	2
00252	00252	2 1/2" x 4 1/2'	5.5	2
00262	00262	2 1/2" x 5'	6	2



**Rafting or Bangor**

Product code	UPC 81767-	Diameter x length	Approx. weight each (lbs.)	Standard industrial pack
03242	03242	2 1/2" x 4'	5	2
03252	03252	2 1/2" x 4 1/2'	5.5	2
03262	03262	2 1/2" x 5'	6	2

**Replacement parts**

**Duckbill hooks**



Product code	UPC 81767-	Size	Approx. weight each (lbs.)	Pack
24010	24010	7/16" x 7/8" x 8"	1.5	1
24230	24230	1/2" x 1" x 9"	2.25	1
24250	24250	Large 1/2" x 1" x 10 1/2"	2.5	1
24260	24260	X-Large 1/2" x 1" x 13"	3	1

**Peavy Pike**



Product code	UPC 81767-	For use on	Approx. weight each (lbs.)	Pack
19090	19090	2 1/4" and 2 1/2" tools	.66	1

**Peavy Sockets**



Product code	UPC 81767-	For use on	Approx. weight each (lbs.)	Pack
18290	18290	2 1/2" tools	2.92	1

5

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**Pike poles—straight pike & hook**

- Fits 1½" handle diameter
- Comes in packs of 3

**Aluminum handle**

Description	Product code	UPC 81767-	Length (ft.)	Approx. weight each (lbs.)
Plain	10081	10081	6	3.33
Plain	10001	10001	8	4.08
Anodized	10002	10002	8	4.08
Plain	10011	10011	10	4.83
Anodized	10012	10012	10	4.83
Plain	10021	10021	12	5.58
Anodized	10022	10022	12	5.58
Plain	10031	10031	14	6.33
Anodized	10032	10032	14	6.33
Plain	10041	10041	16	7.08
Anodized	10042	10042	16	7.08
Plain	10051	10051	18	7.83
Anodized	10052	10052	18	7.83
Plain	10061	10061	20	8.58
Anodized	10062	10062	20	8.58
Plain	10071	10071	24	9.92
Anodized	10072	10072	24	9.92
Plain	10091	10091	30	11.00

**Ash handle**

Product code	UPC 81767-	Length (ft.)	Approx. weight each (lbs.)
10080	10080	6	4.17
10000	10000	8	5.25
10010	10010	10	6.33
10020	10020	12	7.33
10030	10030	14	8.33
10040	10040	16	9.42



**Aluminum handle**



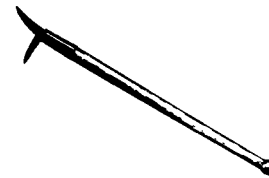
**Ash handle**

**Replacement handles**

Product code	UPC 81767-	Length (ft.)	Approx. weight each (lbs.)
10680	10680	6	4.17
10600	10600	8	5.25
10610	10610	10	6.33
10620	10620	12	7.33
10630	10630	14	8.33
10640	10640	16	9.42

**Midget pike pole—curved pike & hook**

Product code	UPC 81767-	Length (ft.)	Approx. weight each (lbs.)	Pack
13920	13920	3	2.33	3



**\*⚠️ WARNING**

**IMPROPER USE MAY RESULT IN INJURY.**

**To avoid injury:**

- Do not use as a wedge or pry bar.
- Do not flex handle perpendicular (90°) to grain direction.
- Apply load in direction of handle brand only.

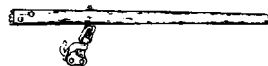
**Wire stretcher/splicer**



Product code	UPC 81767-	Weight each (lbs.)	Pack
47000	47000	8	1

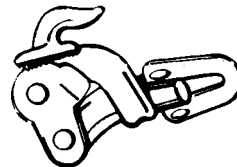
**Wire stretcher**

- uses 12373 swivel wire grip



Product code	UPC 81767-	Weight each (lbs.)	Pack
47021	47021	4	1

**Swivel wire grip**



Product code	UPC 81767-	Finish	Weight each (lbs.)	Pack
12373	12373	Red	3.8	10

**\*⚠ WARNING**

**IMPROPER USE MAY RESULT IN INJURY.**

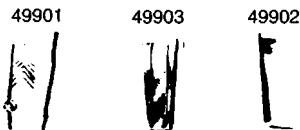
**To avoid injury:**

- Wear eye protection (safety goggles) and long thick leather gloves to prevent injury from broken wires and flying debris.

**DIXIE INDUSTRIES—FIRE FIGHTING TOOLS**

**Saw wedges**

- Supplied in packs of 12



**Aluminum**

Product code	UPC 81767-	Size	Approx. weight each
49900	49900	6 <sup>3</sup> / <sub>4</sub>	13 oz.
49901	49901	5 <sup>5</sup> / <sub>8</sub>	13 oz.
49902	49902	7	1.12 lbs.
49903	49903	6 <sup>7</sup> / <sub>8</sub>	1.50 lbs.

**Plastic**

Product code	UPC 81767-	Size	Approx. weight each
49914	49914	10 <sup>3</sup> / <sub>16</sub>	11 oz.
49915	49915	7 <sup>1</sup> / <sub>2</sub>	8 oz.

**\*⚠ WARNING**

**IMPROPER USE MAY RESULT IN INJURY.**

**To avoid injury:**

- Wear eye protection (safety goggles) and other personal protective items when using and in the vicinity of striking tools as pieces may dislodge and fly.

**DIXIE INDUSTRIES—RIGGING HARDWARE**

**Choker hook**

- Forged alloy steel
- Red finish, heat-treated, bolted clevis pin



Product code	UPC 81767-	Working load limit	Size (in.)	Pack
44300	44300	6,600	3/8	10

**\*⚠ WARNING**

**IMPROPER USE MAY RESULT IN INJURY.**

**To avoid injury:**

- Do not exceed working load limit.



## CM Lifting Clamps

### Clamps

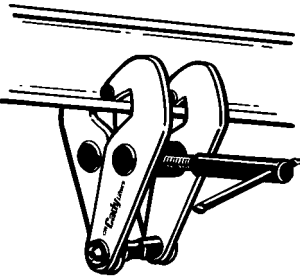
<b>CB Heavy duty bulb section .....</b>	<b>115</b>
<b>CG Heavy duty girder .....</b>	<b>115</b>
<b>CH Heavy duty horizontal plate.....</b>	<b>116</b>
<b>CP Pile pitching .....</b>	<b>119</b>
<b>CR Rail lifting .....</b>	<b>119</b>
<b>CT Heavy duty 'T' or channel section .....</b>	<b>114</b>
<b>CX Heavy duty hinged universal plate .....</b>	<b>112</b>
<b>CY Hinged universal plate.....</b>	<b>112</b>
<b>CZ92 Universal plate.....</b>	<b>111</b>
<b>GS Girder stacking.....</b>	<b>116</b>
<b>HG High grip .....</b>	<b>113</b>
<b>LJ Gentle grip .....</b>	<b>113</b>
<b>PP Pile pulling.....</b>	<b>119</b>
<b>RH Roller toe horizontal .....</b>	<b>117</b>
<b>SC92T Twin screwlok.....</b>	<b>120</b>
<b>Screwlok.....</b>	<b>110</b>
<b>SH Sheet bundle horizontal .....</b>	<b>117</b>
<b>TH Wide mouth .....</b>	<b>113</b>
<b>THK Horizontal thin sheet .....</b>	<b>118</b>
<b>THS Horizontal plate .....</b>	<b>117</b>
<b>TSB Wide jaw gentle grip .....</b>	<b>114</b>
<b>TSD Screwcam pulling .....</b>	<b>118</b>
<b>TSH Screwcam pulling .....</b>	<b>118</b>
<b>TSS Gentle grip .....</b>	<b>114</b>
<b>TTG Horizontal girder .....</b>	<b>116</b>
<b>TTR Girder .....</b>	<b>115</b>

### Trolleys

<b>TBT Snap-on.....</b>	<b>120</b>
<b>TSC Push travel screwlok.....</b>	<b>120</b>



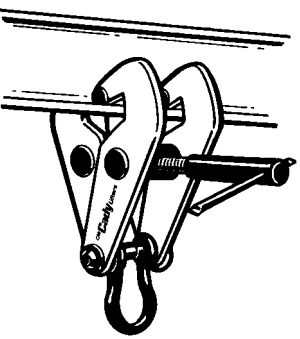
**Screwlok clamps**



- Designed to fit flanges of most structural beams
- Act as semi-permanent lifting point for use with manual or electric hoists
- Load pin incorporated for load suspension with reduced head-room
- Imported

Working load limit (lbs.)*	Product code	Flange (in.)	Load pin dia. (in.)	Weight (lbs.)
2,200	695243	3-8 1/4	3/4	11
4,400	695244	3-8 1/4	3/4	13 1/2
6,600	695245	4-10 5/8	7/8	17 1/2
6,600	695246	3-12	7/8	20
11,000	695247	4-10 5/8	1 1/8	22
11,000	695248	3-12	1 1/8	26 1/2
22,000	694990	3-12	1 1/2	35 1/2

**Screwlok clamps with shackle suspension**



- Designed to fit flanges of most structural beams
- Act as semi-permanent lifting point for use with manual or electric hoists
- Shackle incorporated for load suspension
- Imported

Working load limit (lbs.)*	Working load limit (lbs.)*			Product code	Flange (in.)	Shackle I.D. (in.)	Weight (lbs.)
	@ 15°	@ 30°	@ 45°				
2,200	2,125	1,905	1,555	695249	3-8 1/4	13/4	11
4,400	4,250	3,810	3,111	695250	3-8 1/4	13/4	13 1/2
6,600	6,375	5,716	4,667	695251	4-10 5/8	13/4	17 1/2
6,600	6,375	5,716	4,667	694991	3-12	13/4	20
11,000	10,625	9,526	7,778	694992	4-10 5/8	2 1/8	22
11,000	10,625	9,526	7,778	694993	3-12	2 1/8	26 1/2
22,000	21,250	19,052	15,556	694994	3-12	3 1/4	35 1/2

**Clamps** (Refer also to ANSI/ASME B30.20)

If not properly installed, operated, and maintained, the use of all mechanical equipment presents the possibility of personal injury or property damage. Before using lifting clamps, become familiar with applicable installation, operation and maintenance requirements. Clamps should be used only by authorized, properly trained operators.

Observing the following general precautions will guard against damage and injury:

Inspect clamps and equipment before use. Do not use if components are bent, elongated, gouged, nicked excessively, worn, or damaged. Make sure that nuts, bolts, pins and other fasteners are tightened and secure. Make sure clamps are functional and will grip the load.

Do not exceed the clamps' rated load or working load limit of other lifting equipment components.

Lift only one plate at a time when using lifting clamps.

Do not lift unbalanced loads. Avoid sudden jerks when applying the load. Rapid load application can produce overloading.

Use clamps and lifting equipment only if authorized and properly trained.

Always stand clear when lifting and lowering.

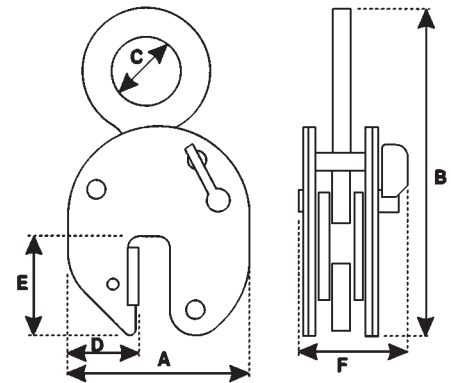
Use more than one clamp suspended from a lifting beam when lifting long loads.

Always gently lift and lower.

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**CZ92 Universal plate clamps**

Working load limit (lbs.)*	Product code	Jaw capacity (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
1,100	695232	0-5/8	3 3/4	7 1/2	2	1 1/8	2	1 1/2	3
3,300	695233	0-3/4	5	9 1/2	2	1 7/8	2 3/4	3 3/8	7
4,400	695234	0-1 1/4	7 5/8	13 3/4	3 1/8	2 7/8	3 3/4	4 3/8	18
6,600	695235	0-1 1/4	7 5/8	14	3 1/8	2 7/8	3 3/4	4 1/2	22
8,800	695236	0-1 1/4	7 1/2	14 1/4	3 1/8	2 1/4	3 3/4	3 7/8	26 1/2
8,800	694770	1 1/4-2 3/8	9	14 1/4	3 1/8	2 1/4	3 3/4	3 7/8	40
13,200	694771	0-2	11 1/2	17 1/2	3 1/2	3 3/4	5 5/8	4 3/4	46 1/2
13,200	694772	2-4	14 1/4	17 1/4	3 1/2	3 3/4	5 5/8	4 3/4	62
17,600	694773	0-2	11 1/2	17 3/4	3 1/2	3 3/4	5 5/8	4 3/4	57 1/2
17,600	694774	2-4	14 1/4	19	3 1/2	4 1/2	5 5/8	4 3/4	70 1/2
22,000	694775	0-2	11 1/2	19 3/4	4 3/8	3 3/4	5 5/8	5 1/8	66
22,000	694776	2-4	14 1/4	19 3/4	4 3/8	4 1/2	5 5/8	5 1/8	81 1/2
26,400	694777	0-2	14 1/8	21 5/8	5 1/8	5	6 3/8	5 3/4	119
26,400	694778	2-4	18 1/8	24 1/4	5 1/8	6 7/8	6 3/8	5 3/4	139
33,000	694779	0-2	14 1/8	21 5/8	5 1/8	5	6 3/8	7 5/8	165 1/2
33,000	694780	2-4	18 1/8	14 1/4	5 1/8	6 7/8	6 3/8	7 5/8	194
44,000	694781	0-2 1/2	18 1/8	26 1/2	5 1/8	6 1/2	8 1/4	9 1/4	271
44,000	694782	2 1/2-5 1/8	22	28 1/2	5 1/8	7 5/8	8 1/4	9 1/4	300
66,000	694783	0-2 1/2	18 1/8	26 1/4	6 1/4	6 1/2	8 1/4	11 1/2	430
66,000	694784	2 1/2-5 1/8	22	28 7/8	6 1/4	7 5/8	8 1/4	11 1/2	650 1/2



**Note: The 1,100 lbs., 3,300 lbs., 4,400 lbs. and 6,600 lbs. W.L.L. units are fitted with moving jaw and fixed pads that incorporate wear indicators.**

**General Safety Note** (Vertical Plate Clamps)

- 1) **DO NOT** use to lift loads that weigh less than 20% of the W.L.L.  
 e.g. 3,300 lbs. clamp should only be used for plates weighing 660-3,300 lbs.  
 e.g. 6,600 lbs. clamp should only be used for plates weighing 1,320-6,600 lbs.
- 2) Extra care must be taken when lifting plates of less than 20% rated jaw capacity.
- 3) Excessive damage can be quickly caused to the teeth of the moving jaw of a clamp which is continuously used to lift the same thickness of material. Clamps used for this purpose must be inspected weekly to check for wear on the 1 or 2 teeth continuously in contact with the load.

**Note:** 695232 supplied without lock.

Lift and turn over plates in one smooth operation.

Plates can be turned over or lifted from the horizontal to the true vertical position.

Available with either standard hooking for use with existing sling hook, or with integral short chain sling for direct fitting on to the crane hook.

Hardened steel jaws for positive grip and locking mechanism.

695233, 695234 and 695235 clamps include a jaw and corresponding pad wear indicator to provide visible warning when replacement is required.

The CZ92 range of clamps can be specially reinforced to withstand frequent dragging. They can also be supplied with a heavy duty 'sharp leg' where a wedge action is required to separate plates. Price on application.

**LIFT ONE PLATE ONLY AT A TIME**

Suitable for all structural steel up to 300 Brinell surface hardness.



<b>*▲WARNING</b>
<b>IMPROPER USE OF LIFTING CLAMPS MAY RESULT IN LOSS OF LOAD AND PERSONAL INJURY.</b>
<p><b>To avoid injury:</b></p> <ul style="list-style-type: none"> <li>Inspect clamps and equipment before use.</li> <li>Do not exceed clamp rated load.</li> <li>Use clamps only if authorized and properly trained.</li> <li>Do not move unbalanced load.</li> </ul>

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**CY Hinged universal plate clamps**

Working load limit (lbs.)*	Product code	Jaw capacity (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
2,200	695237	0-3/4	5	10 <sup>5</sup> / <sub>8</sub>	2	2	2 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	10
4,400	695238	0-1 <sup>1</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>	15	3 <sup>1</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>4</sub>	28 <sup>1</sup> / <sub>2</sub>
6,600	695239	0-1 <sup>1</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>	15	3 <sup>1</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>4</sub>	30

The new CY clamp is based on our successful 92 series range of clamps and incorporates the new universal hinged hooking.

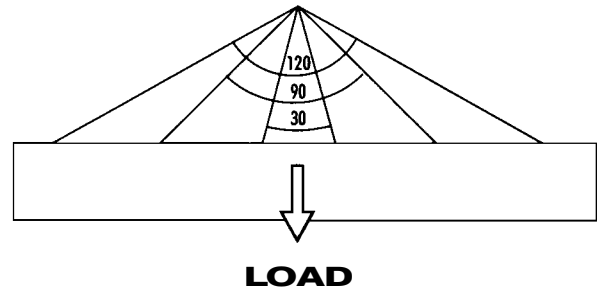
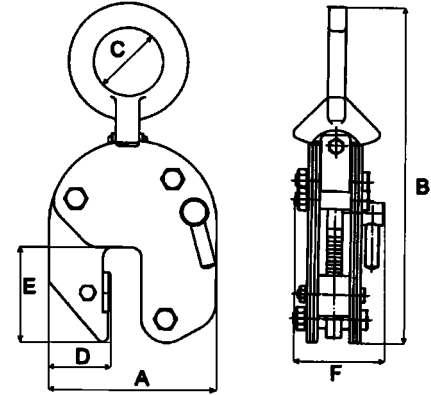
The CX and CY Hinged Universal Plate Clamps have been developed especially for the handling of plate at any angle thus permitting the awkward lifts previously considered hazardous.

The CX clamp is particularly suitable for handling fabrications because of the facility of the lifting eye and link.

**LIFT ONE PLATE ONLY AT A TIME.**

Suitable for all structural steel up to 300 Brinell surface hardness.

For stainless steel and other materials please contact our sales office.

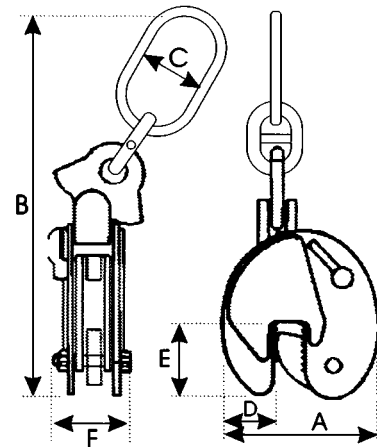


Angle (degrees)	Model code		
	695237 (lbs.)	695238 (lbs.)	695239 (lbs.)
0-30	4,400	8,800	13,200
30-90	2,200	4,400	6,600
90-120	1,100	2,200	3,300

**Safe loads for two clamps.**

**CX Heavy duty hinged universal plate clamps**

Working load limit (lbs.)*	Product code	Jaw capacity (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
2,200	694790	0-3/4	5 <sup>1</sup> / <sub>2</sub>	16	2 <sup>3</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	11
6,600	694791	0-1 <sup>1</sup> / <sub>4</sub>	7 <sup>3</sup> / <sub>4</sub>	20 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	26 <sup>1</sup> / <sub>2</sub>
13,200	694792	0-2	11 <sup>1</sup> / <sub>2</sub>	27 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	84
13,200	694793	2-4	13 <sup>1</sup> / <sub>2</sub>	27 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>	106
17,600	694794	0-2	11 <sup>1</sup> / <sub>2</sub>	27 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>	6	86
17,600	694795	2-4	13 <sup>1</sup> / <sub>2</sub>	27 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	112 <sup>1</sup> / <sub>2</sub>
22,000	694796	0-2	14 <sup>1</sup> / <sub>8</sub>	33 <sup>1</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>8</sub>	134 <sup>1</sup> / <sub>2</sub>
22,000	694797	2-4	16 <sup>1</sup> / <sub>8</sub>	33 <sup>1</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>8</sub>	8 <sup>3</sup> / <sub>8</sub>	167 <sup>1</sup> / <sub>2</sub>



**See above for loading diagram and de-rating table.**

**\* ⚠ WARNING**

**IMPROPER USE OF LIFTING CLAMPS MAY RESULT IN LOSS OF LOAD AND PERSONAL INJURY.**

**To avoid injury:**

- Inspect clamps and equipment before use.
- Do not exceed clamp rated load.
- Use clamps only if authorized and properly trained.
- Do not move unbalanced load.

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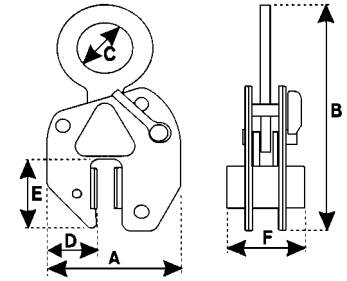


**LJ Gentle grip clamp**

Working load limit (lbs.)*	Product code	Jaw capacity (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
1,100	694800	0-3/8	5	9 1/2	2 1/8	2	2 3/4	3 3/8	7
3,300	694801	0-3/4	8 1/2	15 3/4	3 3/8	3	5 3/8	4 3/4	20

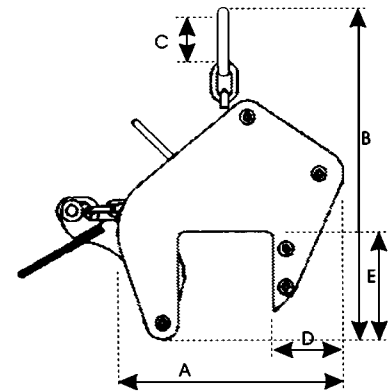
The jaws of this clamp are lined with chrome leather. Each clamp should be inspected weekly to check for wear to the jaw lining. **DO NOT** use solvents to clean the jaw lining as this may affect the bond between the surface material and the metal of the jaw.

The LJ range of clamps is specifically designed to lift plate without marking or damaging the surface finish. They are particularly suitable for lifting thin gauge steel plate, stainless steel and aluminium plate. The clamp jaws are lined with chrome leather. The clamp is also suitable for use with steel of a hardness above 300 Brinell, e.g. 'Hardox.' See operating instructions for maintenance of soft jaws.



**TH Wide mouth clamps**

Working load limit (lbs.)*	Product code	Jaw capacity (in.)	Dimensions (inches)					Weight (lbs.)
			A	B	C	D	E	
750	694810	0-4	9 7/8	31 1/2	4 3/4	3 1/8	4	15 1/2
750	694811	3 1/2-7 7/8	16 7/8	42 1/8	4 3/4	4 3/4	6 1/4	31
1,600	694812	0-4	9 7/8	31 1/2	4 3/4	3 1/8	4	18
1,600	694813	3 1/2-7 7/8	16 7/8	42 1/8	4 3/4	4 3/4	6 1/4	33
2,700	694814	0-4	11	33	4 3/4	4	4	26 1/2
2,700	694815	3 1/2-7 7/8	16 7/8	42 1/8	4 3/4	4 3/4	6 1/4	44
4,400	694816	0-4	12 3/8	33	4 3/4	4	4 5/8	37 1/2
4,400	694817	3 1/2-7 7/8	20 1/2	41 1/2	4 3/4	6 1/4	6 3/4	59 1/2
6,600	694818	0-3 1/2	11 3/4	29 1/8	5 5/8	3 3/4	3 3/8	48 1/2
11,000	694819	0-3 1/2	11 3/4	29 1/8	5 5/8	3 3/4	3 3/8	51
11,000	694820	3 1/8-6 5/8	16 1/2	34 1/4	5 5/8	4 3/8	5 5/8	88
22,000	694821	0-4	16 1/4	37 3/8	5 5/8	6 1/4	5 1/8	139
22,000	694822	3 1/2-7 7/8	22 7/8	42 1/2	5 5/8	6 3/4	7	154



These clamps lift and turn over plates in one smooth operation.

Designed for lifting and handling wide loads from 0-7 7/8 inches thick. The clamp is provided with a lever operated opening device.

**HG High grip clamp**

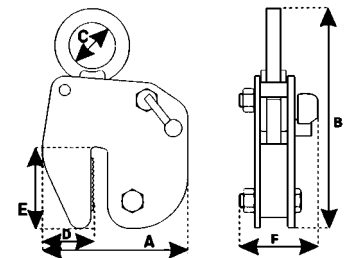
Working load limit (lbs.)*	Product code	Jaw capacity (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
1,100	694830	0-3/8	5 7/8	10 7/8	2	2 1/8	3 1/8	2 5/8	11
2,200	694831	0-5/8	8 1/4	14	2 5/8	3	4 1/2	3 5/8	26 1/2
4,400	694832	0-3/4	12	19 1/4	3 1/8	4	6 1/4	4 3/8	48 1/2
6,600	694833	0-3/4	12	19 1/4	3 1/8	4	6 1/4	4 3/8	59 1/2
8,800	694834	0-3/4	12	20	3 1/2	4	6 1/4	4 3/4	70 1/2

These clamps develop a much higher grip on the lifted plate and are complementary to the Universal type. They are particularly suitable for lifting plates with hardened surfaces or stainless steel.

Available with either standard hooking for use with existing sling hook, or with integral short chain sling for direct fitting on to the crane hook.

**LIFT ONE PLATE ONLY AT A TIME.**

Suitable for all structural steel up to 376 Brinell surface hardness.

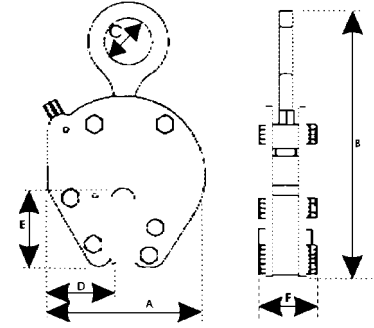


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**TSS Gentle grip clamp (steel jaws)**

Working load limit (lbs.)*	Product code	Jaw capacity (in.)	Dimensions (inches)							Weight (lbs.)
			A	B	C	D	E	F		
1,600	694838	0-5/8	63/8	115/8	2	27/8	33/8	27/8	111/2	
3,300	694839	1/4-1	77/8	133/4	23/4	31/2	43/8	33/8	20	
6,600	694840	1/4-1 1/8	87/8	153/8	3	4	51/8	4	311/2	

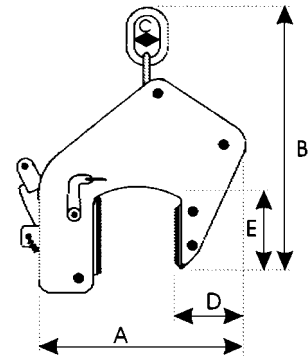
This clamp is specifically designed to lift without marking the surface. Particularly useful for lifting stainless steel when it is important not to impregnate the stainless steel with ferrous material.



**TSB Wide jaw gentle grip clamp (rubber lined jaws)**

Working load limit (lbs.)*	Product code	Jaw capacity (in.)	Dimensions (inches)					Weight (lbs.)
			A	B	C	D	E	
770	694841	0-2 1/2	10 1/4	27 1/2	3	4	5	17 1/2
1,600	694842	0-2 1/2	10 1/4	27 1/2	3	4	5	20
2,700	694843	0-2 1/2	11	27 1/2	3	4	5	26 1/2

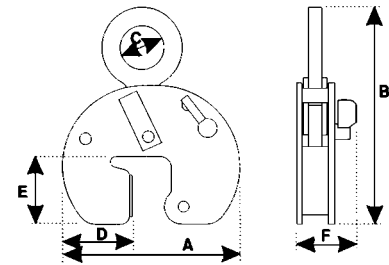
This clamp has hard rubber lined clamping jaws for handling loads that must not be marked.



**NOTE: The TSB clamp is not suitable for use in temperatures above 80°C. Pads must be inspected weekly for damage.**

**CT Heavy duty 'T' or channel section clamp**

Working load limit (lbs.)*	Product code	Max. Flg. width (in.)	Min. web. (in.)	Dimensions (inches)						Weight (lbs.)
				A	B	C	D	E	F	
1,600	694850	1 1/2	0	77/8	10 1/4	2	3	3	2 1/2	13
3,300	694851	2	0	97/8	12 3/4	2 5/8	3 3/4	3 3/4	3 3/4	26 1/2
6,600	694852	2	0	97/8	14 5/8	3 1/8	3 3/4	3 3/4	3 3/4	70 1/2
8,800	694853	2 1/2	1/8	12 1/2	17 7/8	3 1/2	4 7/8	4 3/4	4 3/4	92 1/2
13,200	694854	2 1/2	1/8	12 1/2	19 5/8	3 1/2	4 7/8	4 3/4	4 3/4	97
17,600	694855	3 1/8	1/4	16 1/8	30 3/4	5 1/8	6 1/4	7 1/4	4 3/4	110 1/2
22,000	694856	3 1/8	1/4	16 1/8	30 3/4	5 1/8	6 1/4	7 1/4	4 3/4	125 1/2



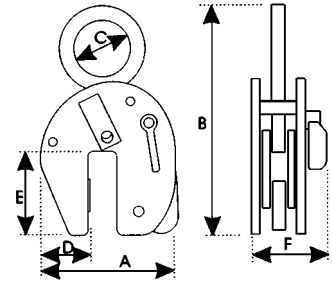
Specially designed for shipbuilding applications. Available with either standard hookring for use with existing sling hook, or with integral short chain sling for direct fitting on to the crane hook.

All clamps fitted with locking mechanism.

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**CB Heavy duty bulb section clamp**

Working load limit (lbs.)*	Product code	Max. bulb (in.)	Min. web. (in.)	Dimensions (inches)						Weight (lbs.)
				A	B	C	D	E	F	
1,600	694860	1 1/2	1/4	6 1/4	11 1/4	2	1 7/8	4	2 1/2	13
3,300	694861	2 3/8	3/8	8 5/8	14 3/4	2 5/8	2 1/8	5 3/4	3 3/4	26 1/2
6,600	694862	3 1/4	1/2	11 7/8	21 5/8	3 1/2	2 5/8	8 1/2	4 3/4	70 1/2
8,800	694863	3 1/4	1/2	12 1/4	20	3 1/2	3 1/2	6 1/2	4 3/4	98 1/2
13,200	694864	3 1/4	1/2	14 1/8	22 1/4	3 1/2	3 1/2	8 1/2	4 3/4	97
17,600	694865	3 1/4	1/2	14 1/8	25 1/4	5 1/8	5 1/8	7 1/2	5 1/8	110 1/2
22,000	694866	3 1/2	1/2	14 1/8	25 1/4	5 1/8	5 1/8	7 1/2	5 3/4	125 1/2



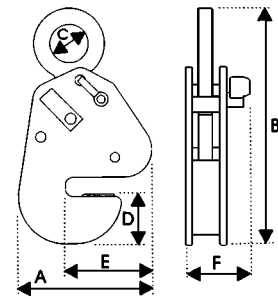
Developed especially for the handling of bulb bar profiles and fabrications containing bulb bar in the shipbuilding industry.

Available with either standard hooking for use with existing sling hook, or with integral short chain sling for direct fitting on to the crane hook.

All clamps fitted with locking mechanism.

**CG Heavy duty girder clamp**

Working load limit (lbs.)*	Product code	Flange (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
2,200	694870	0-5/8	8 1/4	13 3/4	2	2 1/2	4 3/8	3	11
4,400	694871	0-1 1/4	11 3/8	18 3/8	3 1/8	3 1/2	6 1/4	3 7/8	31
8,800	694872	0-1 1/4	11 3/8	20 5/8	3 1/2	3 1/2	7 1/8	5	42
13,200	694873	1/2-2	13 1/4	21 3/4	3 1/2	3 3/4	9	6 5/8	81 1/2
17,600	694874	1/2-2	13 1/4	21 3/4	4	3 3/4	9	6 5/8	88

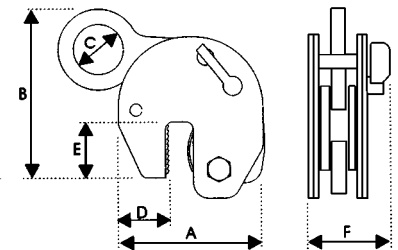


The Girder Clamp has been designed to meet the requirements of the heavy steel industry where the handling of larger sizes of beams presents a problem. It

incorporates a positive lock on to one of the uppermost edges which will allow the beam to be set down with the web or flange vertical.

**TTR Girder clamp**

Working load limit (lbs.)*	Product code	Flange (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
1,600	694875	1/2-5/8	5 3/8	7 1/2	2	1 3/4	2 3/8	3 1/2	7
3,300	694876	1/4-1	7 1/2	10 5/8	2 5/8	2 5/8	3	4 7/8	17 1/2
6,600	694877	1/4-1	8 1/4	9 7/8	3 1/2	2 5/8	3 3/8	5	28 1/2



This clamp has been developed for handling structural beams with the flanges in a vertical position. The hooking is

designed to be as near the center of gravity as possible resulting in a near horizontal lift.

**\* ⚠ WARNING**

**IMPROPER USE OF LIFTING CLAMPS MAY RESULT IN LOSS OF LOAD AND PERSONAL INJURY.**

**To avoid injury:**

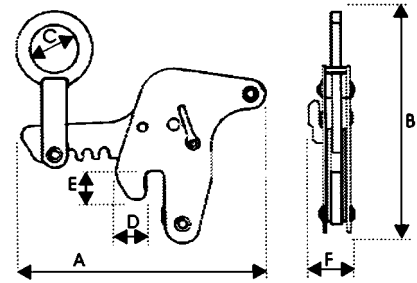
- Inspect clamps and equipment before use.
- Do not exceed clamp rated load.
- Use clamps only if authorized and properly trained.
- Do not move unbalanced load.

**GS Girder stacking clamp**

Working load limit (lbs.)*	Product code	Beam depth (in.)	Flange (in.)	Dimensions (inches)						Weight (lbs.)
				A	B	C	D	E	F	
1,100	694880	6-12	7/8	14 1/8	14 5/8	2 5/8	1 3/4	1 5/8	8 1/2	17 1/2
2,200	694881	8-18	1 1/8	22 1/4	18 3/4	2 5/8	2 7/8	3 1/8	13 1/2	62

Specifically designed for the handling of rolled steel beams and joists when stacked horizontally.

The unique design enables the beam to be lifted by one flange and transported horizontally.

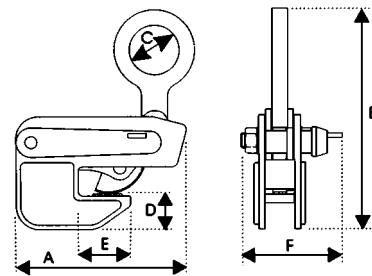


**TTG Horizontal girder clamp**

Working load limit (lbs.)*	Product code	Plate (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
3,300	694885	0-1 1/8	9	10 7/8	3 3/4	1 3/4	2 3/4	4	11
6,600	694886	0-1 3/8	11 1/8	11 5/8	3 1/8	2 1/8	2 7/8	4 1/2	22
9,900	694887	0-1 1/2	12 3/8	13 1/4	3 1/2	2 3/8	3	4 5/8	31
16,500	694888	0-1 3/4	14 1/2	15	4 3/8	2 1/2	3 5/8	6 5/8	60

This clamp is designed to lift and transport steel beams with the flanges in a horizontal position.

The clamp is fitted with a locking mechanism and can be used in pairs or singly.



**CH Heavy duty horizontal plate clamp**

Working load limit (lbs.)*	Product code	Plate (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
2,200	695240	1/4-1 1/4	6 7/8	8 5/8	2	1 1/8	3 1/4	4	17 1/2
4,400	695241	1/4-1 1/4	6 7/8	8 5/8	2	1 1/8	3 1/4	4	24 1/2
4,400	695242	3/4-2	6 7/8	9 3/8	2	1 1/8	3 1/4	4	26 1/2
8,800	694890	1/4-2	8 7/8	11 3/8	2 1/2	1 1/2	4 3/8	4	37 1/2
8,800	694891	2-4	10	13 3/4	2 1/2	1 1/2	4 3/8	4	51
13,200	694892	1/4-3	11 3/4	15 5/8	3 1/2	2 1/8	6 3/4	5 1/8	101 1/2
13,200	694893	2-5	13	17 3/4	3 1/2	2 1/8	6 3/4	5 1/8	123 1/2
17,600	694894	1/4-3	12	16 5/8	3 1/2	2 1/8	6 5/8	5 1/8	117
17,600	694895	2-5	9 3/8	18 5/8	3 1/2	2 1/8	6 5/8	5 1/8	132 1/2
17,600	694896	1/4-2	8 1/4	10 5/8	2 3/4	1 3/4	4 3/8	4	46 1/2
17,600	694897	2-4	9 5/8	13 1/8	2 3/4	1 3/4	4 3/8	4	62
22,000	694898	1/4-4	14 3/4	20 1/4	4 1/2	2 1/2	8 3/8	5 7/8	209 1/2
22,000	694899	2-6	15 5/8	22	4 1/2	2 1/2	8 3/8	5 7/8	238

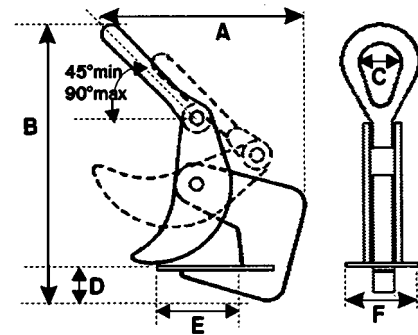
Working load limit listed per pair.

Used in pairs this range of clamps is ideal for loading machines and moving plate material in the horizontal position. A single pair of clamps fitted to a two leg chain sling (maximum sling angle 90°) is all that is required for lifting short lengths of plate. For long plates, 2 pairs of clamps suspended by chain from a lifting beam must be used. The two jaws and wide toe

plate give the clamp a stable grip on the plate. The integral shackle ring will accept chain sling hooks or wire rope slings directly.

Maximum sling angle is 90°.

The 695240 units are of single cam construction and 694896 and 694897 units are manufactured from High Strength steel for ease of handling.



These clamps are supplied with smooth jaws. CH clamps are also available with serrated teeth jaws.

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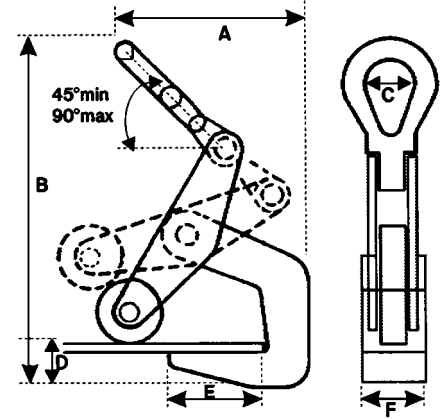
**RH Roller toe horizontal clamp**

Working load limit (lbs.)*	Product code	Plate (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
3,300	694901	1/4-23/8	53/8	93/4	2	13/8	41/8	2	281/2
5,500	694902	3/8-23/4	71/8	123/8	21/2	17/8	41/8	3	55
7,700	694903	3/8-31/8	71/2	135/8	21/2	2	47/8	31/2	791/2
11,000	694904	3/8-4	8	133/4	31/2	23/8	47/8	43/4	159

Working load limit listed per pair.

The contact area features a roller toe to assist correct location, and allows reduced marking during lifting.

Maximum sling angle is 90°.



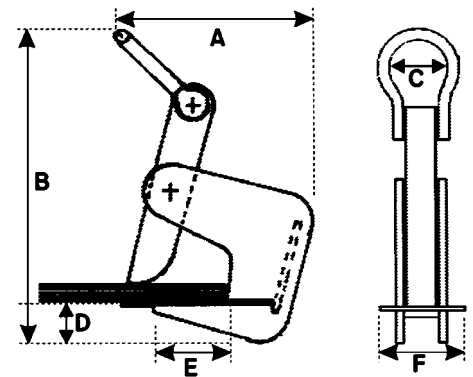
**SH Sheet bundle horizontal clamp**

Working load limit (lbs.)*	Product code	Plate (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
4,400	694910	1/4-4	91/4	141/8	2	17/8	43/8	37/8	53
6,600	694911	1/4-6	121/4	173/4	21/4	21/4	5	37/8	88
8,800	694912	1/4-77/8	141/2	225/8	31/4	3	61/4	57/8	181

Working load limit listed per pair.

These clamps are used in pairs on a spreader beam for lifting bundles of plates.

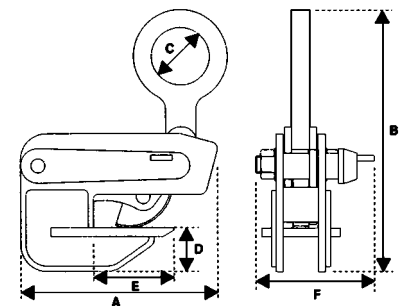
Maximum sling angle is 90°.



**THS Horizontal plate clamp with locking mechanism**

Working load limit (lbs.)*	Product code	Flange (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
1,600	694920	0-3/4	97/8	101/4	2	13/4	41/8	37/8	61/2
3,300	694921	0-13/8	7	113/8	21/2	2	43/8	51/8	131/2
6,600	694922	0-11/2	111/4	14	23/4	23/4	41/2	53/8	22
9,900	694923	0-13/4	121/4	153/4	23/4	23/4	47/8	61/8	351/2

These clamps are designed for lifting and handling sheet steel plates. The clamp is particularly useful for loading plates into guillotines, presses, punching machines and folding presses. The locking mechanism is pre-tensioned ensuring a proper grip. These clamps can be used in pairs or singly.



**\* ⚠ WARNING**

**IMPROPER USE OF LIFTING CLAMPS MAY RESULT IN LOSS OF LOAD AND PERSONAL INJURY.**

**To avoid injury:**

- Inspect clamps and equipment before use.
- Do not exceed clamp rated load.
- Use clamps only if authorized and properly trained.
- Do not move unbalanced load.

**THK Horizontal thin sheet clamp**

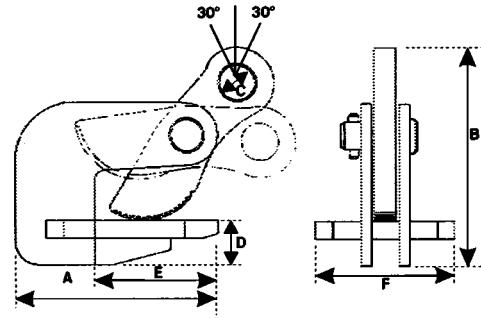
Working load limit (lbs.)*	Product code	Plate (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
1,600	694930	0-3/4	4 <sup>5</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	3/4	1	27/8	3 <sup>1</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>
3,300	694931	0-1 <sup>3</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	6 <sup>5</sup> / <sub>8</sub>	1	1 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	13 <sup>1</sup> / <sub>2</sub>
6,600	694932	0-1 <sup>3</sup> / <sub>8</sub>	6 <sup>5</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	4	26 <sup>1</sup> / <sub>2</sub>
9,900	694933	0-1 <sup>3</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>4</sub>	8 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>4</sub>	4	4 <sup>3</sup> / <sub>8</sub>	62
13,200	694934	0-2 <sup>3</sup> / <sub>8</sub>	8 <sup>3</sup> / <sub>8</sub>	10 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>8</sub>	62
19,800	694935	0-2 <sup>3</sup> / <sub>8</sub>	8 <sup>3</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	92 <sup>1</sup> / <sub>2</sub>

Working load limit listed per pair.

A horizontal plate lifting clamp with reversed jaws designed to handle thin sheets that deflect when being lifted.

Clamps are used in pairs.

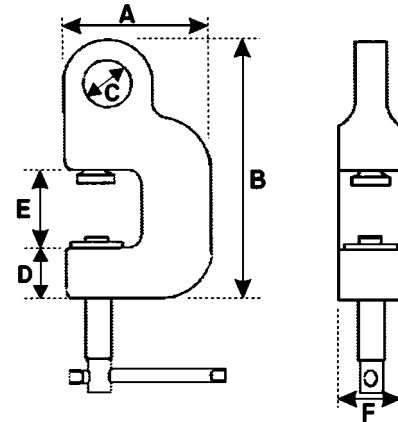
Maximum sling angle is 60°.



**TSD Screwcam pulling clamp**

Working load limit (lbs.)*	Product code	Plate (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
3,300	694940	0-1 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>8</sub>	2	9
6,600	694941	0-1 <sup>3</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>4</sub>	2	2 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub>
11,000	694942	0-1 <sup>1</sup> / <sub>2</sub>	5 <sup>7</sup> / <sub>8</sub>	10 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	3	3	17 <sup>1</sup> / <sub>2</sub>
16,500	694943	0-1 <sup>1</sup> / <sub>2</sub>	6 <sup>3</sup> / <sub>8</sub>	11 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>8</sub>	3	3 <sup>1</sup> / <sub>8</sub>	28 <sup>1</sup> / <sub>2</sub>

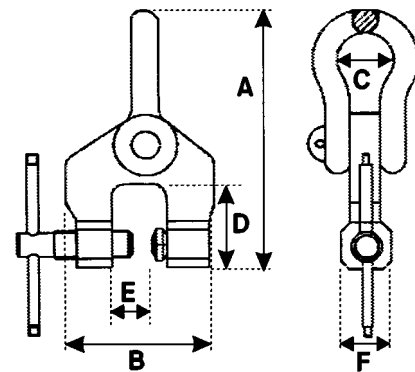
Screwcam clamp for pulling in three planes. The design of this clamp allows for simultaneous loading in two directions.



**6 TSH Screwcam pulling clamp**

Working load limit (lbs.)*	Product code	Plate (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
3,300	694948	0-1 <sup>1</sup> / <sub>4</sub>	10	5 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	3	1 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>4</sub>	11
6,600	694949	0-2	11 <sup>3</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	2	2	20
11,000	694950	0-3 <sup>1</sup> / <sub>8</sub>	18 <sup>1</sup> / <sub>2</sub>	8 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	70 <sup>1</sup> / <sub>2</sub>

Screwcam clamp for pulling in two directions. Particularly suitable for folded and beaded sheet metal.



**\* ⚠ WARNING**

**IMPROPER USE OF LIFTING CLAMPS MAY RESULT IN LOSS OF LOAD AND PERSONAL INJURY.**

**To avoid injury:**

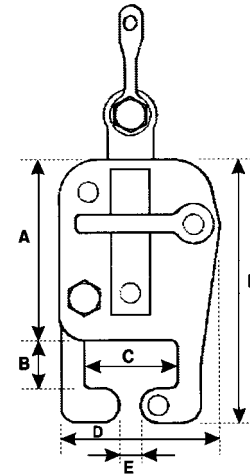
- Inspect clamps and equipment before use.
- Do not exceed clamp rated load.
- Use clamps only if authorized and properly trained.
- Do not move unbalanced load.

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**CR Rail lifting clamp**

Working load limit (lbs.)*	Product code	Dimensions (inches)						Weight (lbs.)
		A	B	C	D	E	F	
2,200	694951	67/8	13/4	31/2	57/8	13/8	91/4	281/2
4,400	694952	67/8	13/4	31/2	63/4	13/8	91/4	281/2

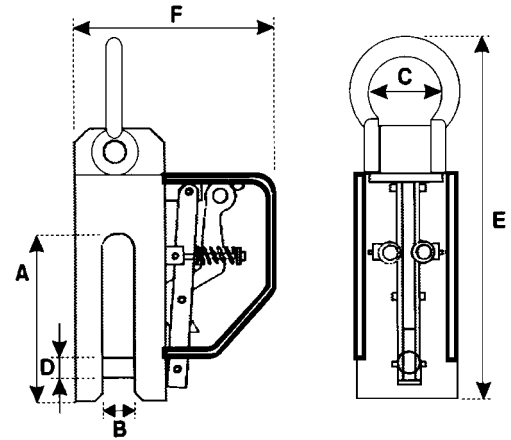
For handling rail sections. These clamps are designed to lift most sizes of rail now in use in the USA.



**CP Pile pitching clamp**

Working load limit (lbs.)*	Product code	Dimensions (inches)						Weight (lbs.)
		A	B	C	D	E	F	
4,400	694980	9	3/4	2	3/4	163/4	81/2	42
6,600	694981	9	1	21/2	11/4	177/8	87/8	51
11,000	694982	9	13/8	31/4	11/4	197/8	91/2	73

These clamps are designed specifically for pitching sheet steel piling and have the advantage that a rope is fitted for easy release from ground level. This presents a quicker method than the laborious procedure of release when using a standard shackle. These clamps are not designed to extract a driven pile and must not be used for this under any circumstances.



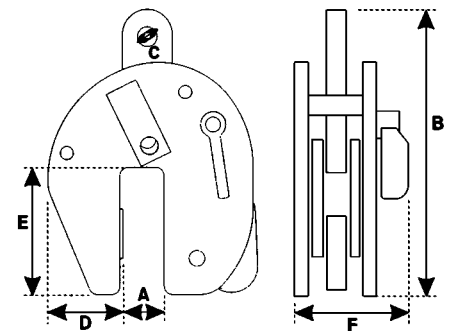
**PP Pile pulling clamp**

Working load limit (lbs.)*	Product code	Jaw opening (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
17,600	694983	0-11/8	11/2	171/4	11/8	41/2	75/8	57/8	62

**Lifting appliances must be fitted with a load indicator to ensure that the Working Load Limit of the clamp is not exceeded.**

The Pile Pulling Clamp is designed to pull out driven piles. The clamp has a narrow opening and deeper slot to ensure pile is gripped firmly.

It is extremely difficult to determine the forces required to pull out a driven pile, contractors should therefore take extra care to ensure that the WLL of the clamp is not exceeded. Lifting appliances should preferably be fitted with a load indicator.



**Gripping force indicator (patent pending) for SC and SC92 Screwlok clamps**

This unique device (patent pending) allows the operator to easily determine when the clamping jaws are clamped to the correct load/tension. The device incorporates two colored cylindrical pins that protrude from the mechanism when the clamp is not attached properly. As the clamp is being tightened the pins retract, when

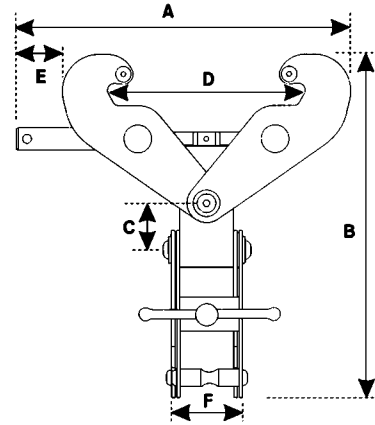
they are flush with the clamp it is tightened correctly and ready to use. This eliminates the danger of guessing if the clamp is gripping the flange or not. Providing the instructions are followed the clamp can be used for attachment to the load to be lifted. Use suffix 'G' to designate gripping force indicator.

**SC92T Twin screwlok clamp**

Working load limit (lbs.)*	Product code	Flange (in.)	Dimensions (inches)						Weight (lbs.)
			A max.	B max.	C	D max.	E max.	F	
2,200	694970	3-8 <sup>1</sup> / <sub>4</sub>	14 <sup>5</sup> / <sub>8</sub>	18 <sup>1</sup> / <sub>2</sub>	2	8 <sup>1</sup> / <sub>4</sub>	4 <sup>3</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	24 <sup>1</sup> / <sub>2</sub>
4,400	694971	3-8 <sup>1</sup> / <sub>4</sub>	14 <sup>5</sup> / <sub>8</sub>	18 <sup>1</sup> / <sub>2</sub>	2	8 <sup>1</sup> / <sub>4</sub>	4 <sup>3</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	28 <sup>1</sup> / <sub>2</sub>
6,600	694972	4-10 <sup>5</sup> / <sub>8</sub>	18 <sup>1</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	10 <sup>5</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	4	35 <sup>1</sup> / <sub>2</sub>
6,600	694973	3-12	18 <sup>7</sup> / <sub>8</sub>	26	2 <sup>1</sup> / <sub>2</sub>	12	5 <sup>3</sup> / <sub>4</sub>	4	44
11,000	694974	4-10 <sup>5</sup> / <sub>8</sub>	18 <sup>1</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	10 <sup>5</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>8</sub>	51
11,000	694975	3-12	18 <sup>7</sup> / <sub>8</sub>	26	2 <sup>1</sup> / <sub>2</sub>	12	5 <sup>3</sup> / <sub>4</sub>	4 <sup>3</sup> / <sub>8</sub>	59 <sup>1</sup> / <sub>2</sub>
22,000	694976	3-12	19 <sup>5</sup> / <sub>8</sub>	27 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	12	5 <sup>3</sup> / <sub>4</sub>	4 <sup>3</sup> / <sub>4</sub>	81 <sup>1</sup> / <sub>2</sub>

The Twin Screwlok Clamps are designed to enable one beam to be suspended beneath another beam. Note these clamps can only be used with a minimum of 2 suspension points. Cantilevered

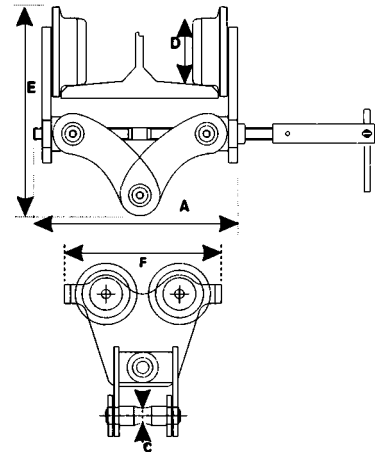
loads on the bottom beam are not allowable. The diagram shows the rigid fixed suspension bracket. These are also available with a single bolt swivel suspension bracket.



**TSC Push travel screwlok trolley**

Working load limit (lbs.)*	Product code	Flange (in.)	Dimensions (inches)						Weight (lbs.)
			A max.	B max.	C	D	E max.	F	
2,200	694986	3-8 <sup>1</sup> / <sub>4</sub>	10 <sup>5</sup> / <sub>8</sub>	10 <sup>5</sup> / <sub>8</sub>	3/4	1 <sup>3</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>2</sub>	6	13 <sup>1</sup> / <sub>2</sub>
4,400	694987	3-8 <sup>1</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>2</sub>	3/4	2 <sup>3</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>4</sub>	8	22
6,600	694988	3 <sup>1</sup> / <sub>2</sub> -8 <sup>1</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>2</sub>	7/8	2 <sup>3</sup> / <sub>4</sub>	11 <sup>5</sup> / <sub>8</sub>	8 <sup>7</sup> / <sub>8</sub>	33

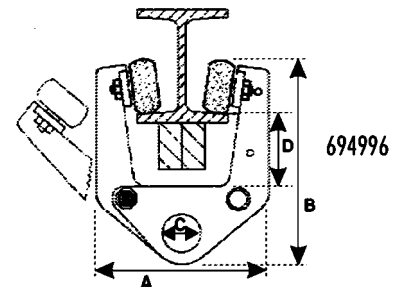
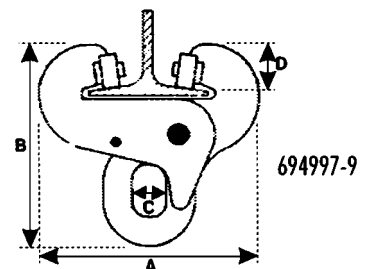
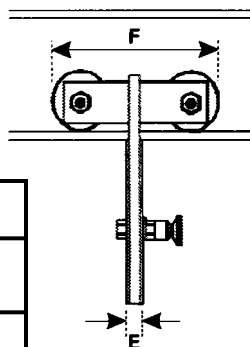
The push travel Screwlok trolley clamp provides an easily moved temporary suspension point.



**TBT Snap-on trolley**

Working load limit (lbs.)*	Product code	Jaw opening (in.)	Dimensions (inches)						Weight (lbs.)
			A	B	C	D	E	F	
660	694996	2 <sup>3</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	10 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>8</sub>	3/4	7 <sup>7</sup> / <sub>8</sub>	15 <sup>1</sup> / <sub>2</sub>
2,200	694997	3-4	10 <sup>1</sup> / <sub>4</sub>	9	1 <sup>1</sup> / <sub>8</sub>	3	3/4	7 <sup>7</sup> / <sub>8</sub>	17 <sup>1</sup> / <sub>2</sub>
4,400	694998	4-5 <sup>7</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	12 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	3 <sup>5</sup> / <sub>8</sub>	3/4	7 <sup>7</sup> / <sub>8</sub>	35 <sup>1</sup> / <sub>2</sub>
6,600	694999	4-7 <sup>7</sup> / <sub>8</sub>	16 <sup>1</sup> / <sub>2</sub>	15 <sup>3</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub>	4	3/4	7 <sup>7</sup> / <sub>8</sub>	57 <sup>1</sup> / <sub>2</sub>

A range of snap on push travel trolleys. Once the load is in position the trolley is locked in position, in addition a spring loaded safety pin is included for extra safety.



**\* ⚠ WARNING**

**IMPROPER USE OF LIFTING CLAMPS MAY RESULT IN LOSS OF LOAD AND PERSONAL INJURY.**

**To avoid injury:**

- Inspect clamps and equipment before use.
- Do not exceed clamp rated load.
- Use clamps only if authorized and properly trained.
- Do not move unbalanced load.





## CM Cady Lifters

### Lifters

<b>Bar and pipe racks .....</b>	<b>136</b>
<b>Beams .....</b>	<b>131-135</b>
<b>Coil lifters and C-hooks .....</b>	<b>124-127</b>
<b>Crane forks and pallet lifters.....</b>	<b>128-129</b>
<b>Custom information.....</b>	<b>139-140</b>
<b>How to select and order the proper beam .....</b>	<b>130</b>
<b>How to select and order the proper coil lifter and crane fork .....</b>	<b>122-123</b>
<b>Sheet and plate lifters .....</b>	<b>137-138</b>
<b>Special beam configurations.....</b>	<b>135</b>
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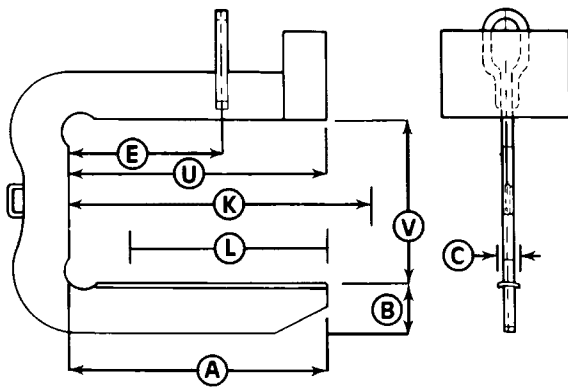
## How to select and order the proper coil lifter and crane fork

Match a CM Cady coil lifter or crane fork to your exact load sizes and handling requirements and you save money. Your initial purchase and operating costs will be lower.

Prices are typically lower for models with lower capacities, shorter load centers or less vertical clearance than standard models. Also, compact C-hooks are cut from expensive plate. If you can order two hooks at the same time they can be nested to provide you with substantial savings over the cost of two separate orders for one hook.

Deliveries for customer specified sizes and non-stock standard models are the same. Please keep in mind that this is a "made-to-order" product.

When ordering C-hooks, consider permanent storage parking stands. They permit safer attachment to hoists because the C-hook is in ready-to-use position.



### Coil lifter dimensions

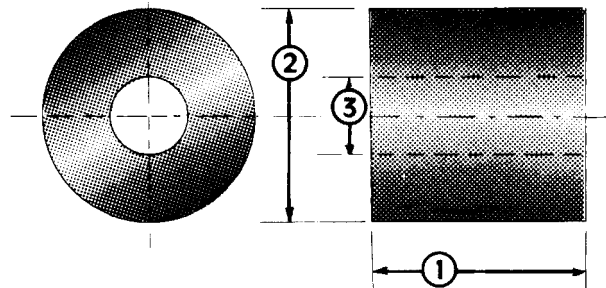
- A. Lift arm length . . . . . "
- B. Max. arm depth. . . . . "
- C. Max. arm width . . . . . "
- E. Center of gravity for load & lifter . . . . . "
- K. Max. coil lift . . . . . "
- U. Upper arm length . . . . . "
- V. Vertical clearance . . . . . "

### Other features

## Coil hooks

### Define coil size

- Determine maximum coil width (dimension "K")
- Nominal center of gravity "E" should equal half of "K"
- For multiple coils or coiled rod or wire, please provide maximum load width and request quote for "full-length lower arm"
- "L" is the narrowest coil that can be lifted without lower arm protruding
- Coils narrower than "L" can be handled if centered under the bail
- Determine maximum radial thickness to be handled
- Radial thickness =  $\frac{\text{max OD of coil} - \text{min ID of coil}}{2}$
- Most users select a vertical clearance "V" that is 3" to 5" greater than maximum radial thickness



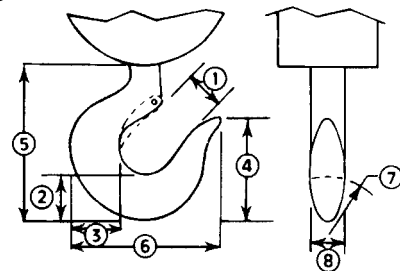
### Define coil load

1. Max. width \_\_\_\_\_ Min. width \_\_\_\_\_
2. Max. outside diameter \_\_\_\_\_
3. Min. inside diameter \_\_\_\_\_
4. Max. weight \_\_\_\_\_

Will more than one coil be handled at once?  
\_\_\_\_\_

### Hook dimensions

1. \_\_\_\_\_ "
2. \_\_\_\_\_ "
3. \_\_\_\_\_ "
4. \_\_\_\_\_ "
5. \_\_\_\_\_ "
6. \_\_\_\_\_ "
7. \_\_\_\_\_ "
8. \_\_\_\_\_ "

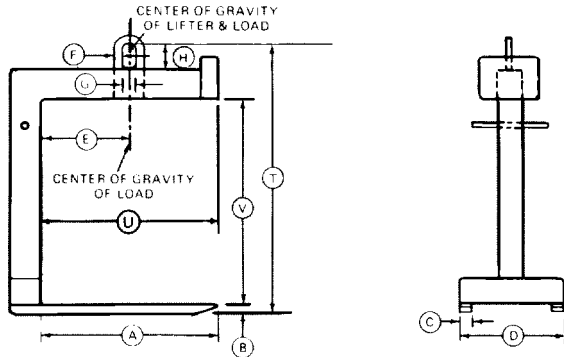
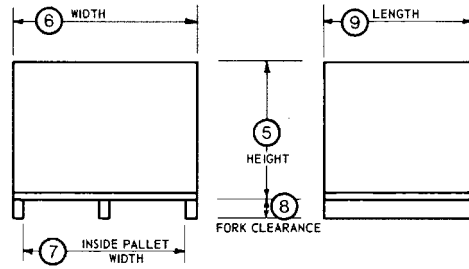


Capacity \_\_\_\_\_ tons

**Crane forks**

**Crane fork dimensions**

- A. Fork length. . . . . \_\_\_\_\_ "
- B. Allowable vertical fork thickness. . . . . \_\_\_\_\_ "
- C. Fork width . . . . . \_\_\_\_\_ "
- D. Outside width of forks . . . . . \_\_\_\_\_ "
- E. Distance to center of gravity of load. \_\_\_\_\_ "
- V. Clear height above forks. . . . . \_\_\_\_\_ "

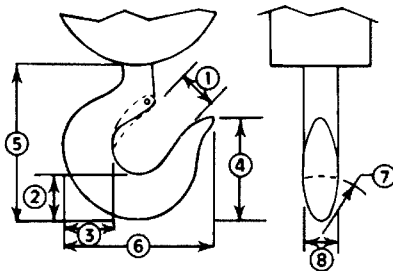


**Load details**

1. Max load \_\_\_\_\_ lbs.
  2. Is load on pallets? \_\_\_\_\_ On skids? \_\_\_\_\_
  3. Is center of gravity apt to shift? If so, please describe.  
\_\_\_\_\_  
\_\_\_\_\_
  4. If center of gravity is not at center of object being lifted, please describe. \_\_\_\_\_  
\_\_\_\_\_
  5. Height \_\_\_\_\_
  6. Width \_\_\_\_\_
  7. Inside width \_\_\_\_\_
  8. Fork clearance \_\_\_\_\_
  9. Length \_\_\_\_\_
  10. If load has range of lengths instead of single length as 9 above, list:  
minimum length \_\_\_\_\_  
and maximum length \_\_\_\_\_
- IMPORTANT** — If load overhangs pallet, submit detailed sketch.

**Hook dimensions**

1. \_\_\_\_\_ "
2. \_\_\_\_\_ "
3. \_\_\_\_\_ "
4. \_\_\_\_\_ "
5. \_\_\_\_\_ "
6. \_\_\_\_\_ "
7. \_\_\_\_\_ "
8. \_\_\_\_\_ "



Capacity \_\_\_\_\_ tons

**\*⚠ WARNING**

- Inspect lifter, moving lifter parts and operating controls for proper operation before each use. Never use malfunctioning or damaged lifter, or one tagged "Out of Service."
- Do not exceed rated load of lifter and crane.
- Make sure load is balanced and stable.
- Avoid shock loads due to sudden starts and stops.
- Make sure lifting ropes and chains are not twisted or kinked.
- Do not lift people. Make sure operator and others are clear of load at all times.
- Make sure load clears objects during moving.

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**Compact C-hooks**

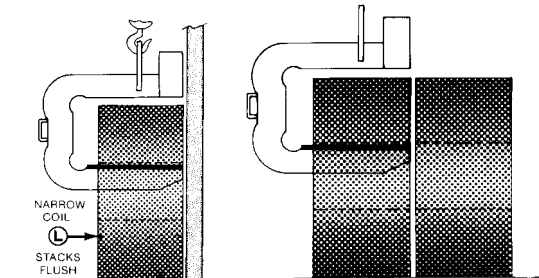
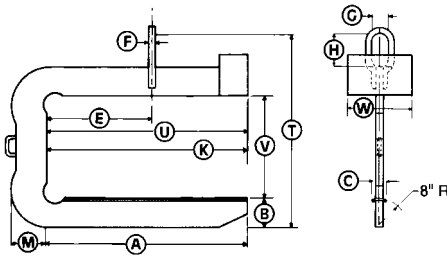
- Three types (close stacker, low cost and slit coil)
- High-strength quenched & tempered T-1† alloy steel
- Rugged, lightweight and 2-3 times more resistant to bending than carbon steel
- Low tare weight reduces wear and tear on crane and coils
- Large radial corners minimize stress and reduce coil damage
- Curved saddles prevent coil damage
- Counterbalanced to hang level when empty
- Centered under bail for proper balance
- Capacity 100 lbs. to 50 tons
- Made in U.S.A.

†T-1 is a trademark of U.S. Steel Corp.



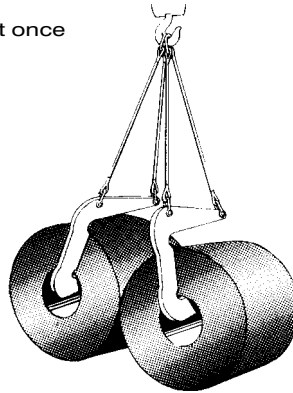
**Close stacking C-hooks**

- Versatile with shorter arm to handle large range of coil sizes
- Handles coils without interfering with adjacent coils or walls
- Shorter upper arm allows coils to be stacked flush against vertical surface to save floor space
- T-1 alloy frame for up to 50% lighter, easier to handle lifter and reduced coil damage
- Capacity 100 lbs. to 50 tons
- Made in U.S.A.



**Ship loader**

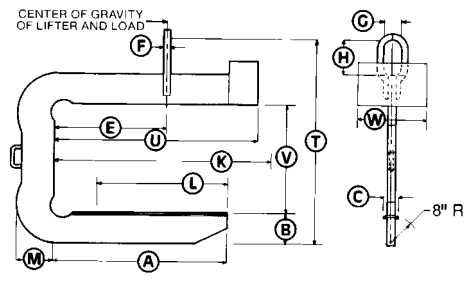
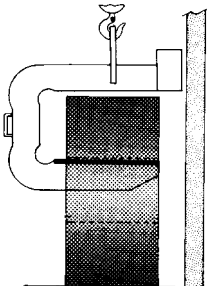
- Pairs of compact C-hooks handle two coils at once
- Rugged, lightweight
- Easily separated for insertion into coils
- Capacity to 30 tons
- Made in U.S.A.



**7**

**Low cost C-hooks**

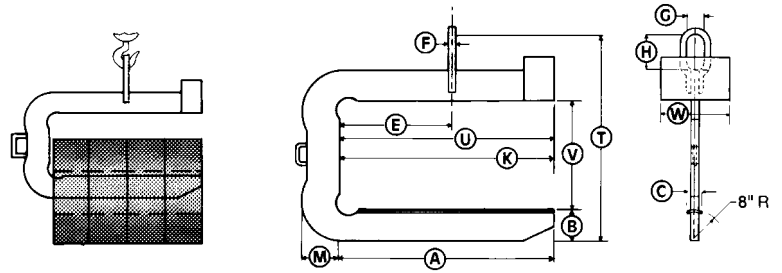
- Longer upper arm and smaller counterweight help to lower cost
- Handles range of coil widths without lower arm protruding
- T-1 alloy frame for up to 50% lighter, easier to handle lifter and reduced coil damage
- Capacity 100 lbs. to 50 tons
- Made in U.S.A.



**\* ⚠ WARNING**  
 Overloading and improper use can result in injury.  
 See page 123

**Slit coil C-hooks**

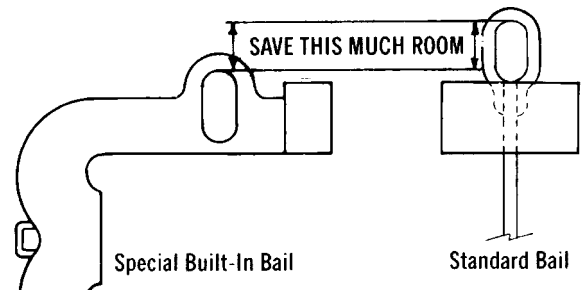
- Full-length arms support total width of multiple coils
- For narrower loads, end of arm may protrude
- T-1 alloy frame for up to 50% lighter, easier to handle lifter and reduced coil damage
- Capacity 100 lbs. to 30 tons
- Made in U.S.A.



**Special options**

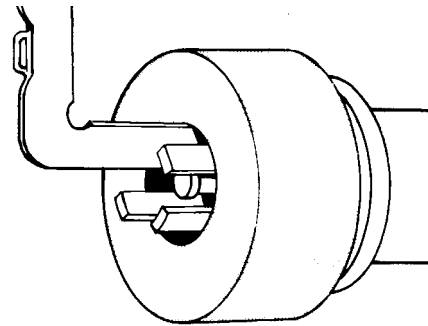
**High stacker**

- Lifting bail built into C frame to save headroom
- Can be furnished on C-hooks up to 80,000 lbs. capacity
- Made in U.S.A.



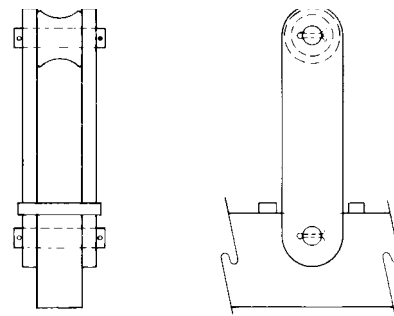
**Direct loading**

- For processing equipment applications
- Can be custom fit for slots on turnstiles, coil reelers and unreelers
- Made in U.S.A.



**Replaceable bail**

- C-hooks can be furnished with optional bail with replaceable wear spool
- Bail can be pinned or welded to frame
- Made in U.S.A.



**Super low headroom**

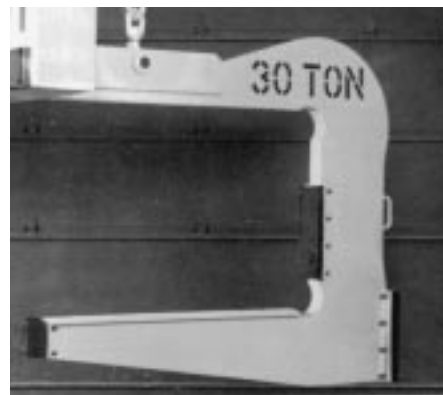
- Crane hook pins into C-hook frame
- Made in U.S.A.

**Special configurations**

- Compact C-hooks can be made for any size coil
- Smaller hooks may not need counterbalancing
- Made in U.S.A.

**Pads prevent damage**

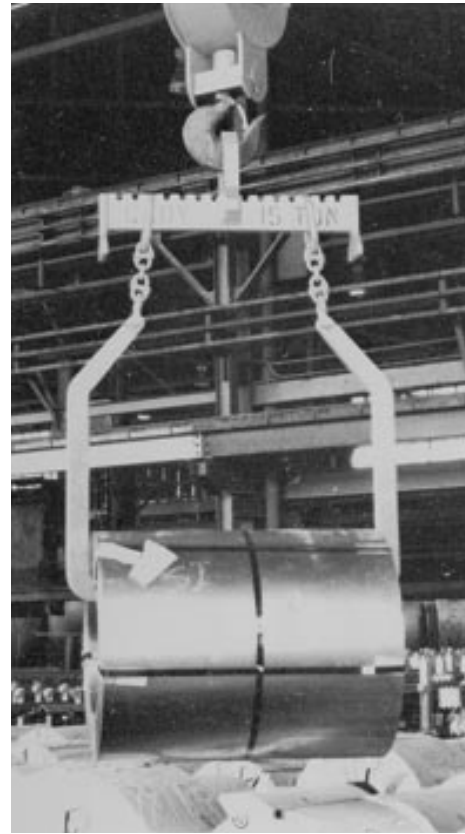
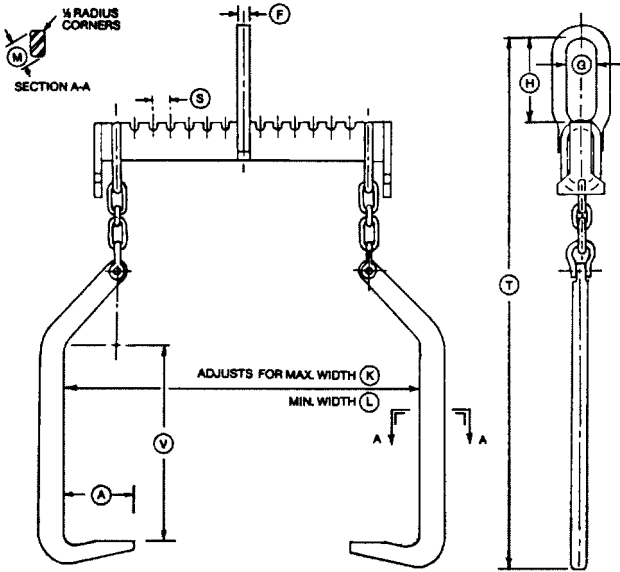
- Replaceable pads prevent marring of finish of face and inside of coils
- Made in U.S.A.



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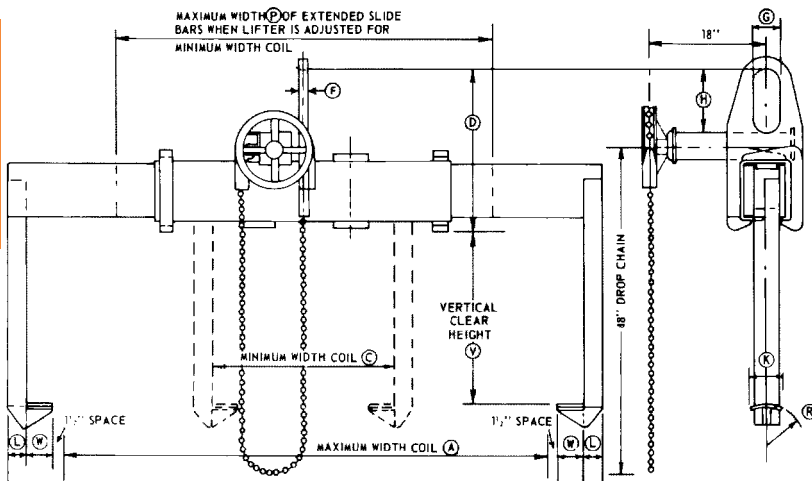
**Narrow aisle coil hooks**

- Low cost, low maintenance solution for narrow aisle coil handling
- Allows operator to automatically hook and release coils from remote crane
- Function easily with 12" to 16" aisles
- Notched upper beam allows easy adjustments
- Made from quenched & tempered alloy steel
- Custom fit bail minimizes wear
- Capacity to 40 tons
- Made in U.S.A.



**Telescoping horizontal coil lifters**

- Two-sided telescoping coil lifters handle range of coil sizes
- Stores coils with minimum space between rows
- Telescoping width adjustment by self-locking worm gear drive
- All shafts ball bearing mounted
- Slip-clutch prevents gear damage
- Easy manual chain-wheel operation
- Push-button motor drive or remote control available
- Capacity to 40 tons
- Made in U.S.A.



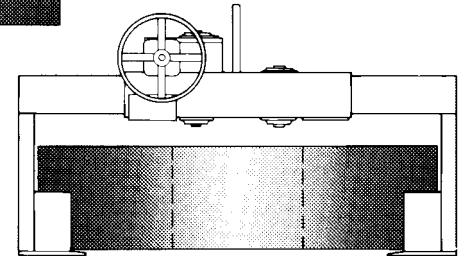
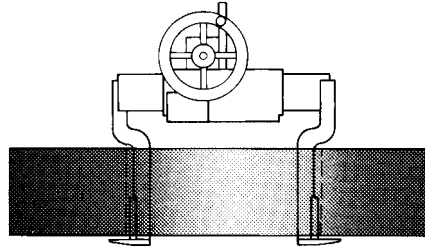
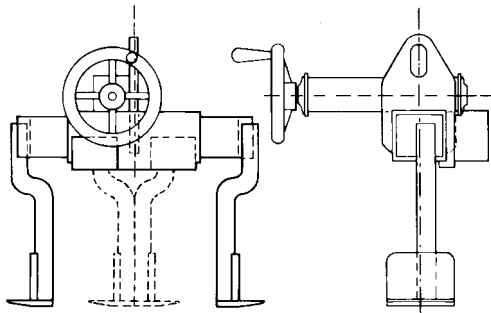
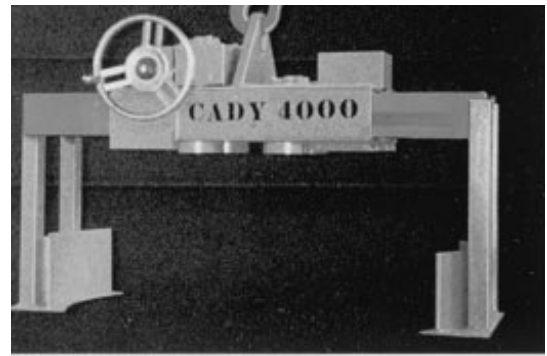
7

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**Vertical coil lifters**

- Variety of lifters available for handling coils in vertical position
- To be effective all coils must be tightly wound on tensioning device before handling
- Capacity to 15 tons
- Made in U.S.A.
- Custom vertical lifters can be designed with the following information:

1. Maximum outside diameter \_\_\_\_\_
2. Minimum outside diameter \_\_\_\_\_
3. Maximum inside diameter \_\_\_\_\_
4. Minimum inside diameter \_\_\_\_\_
5. Coil width range \_\_\_\_\_
6. Stack height \_\_\_\_\_
7. Clearance between coils/coils & pallet \_\_\_\_\_

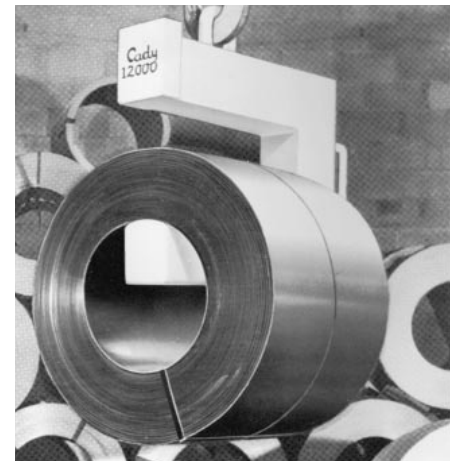
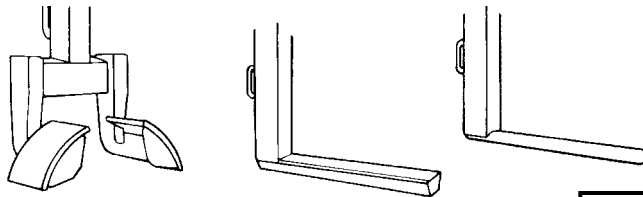


**Tubular C-hooks**

- Made from internally stiffened structural tubes
- Provides less expensive alternative to compact alloy C-hooks under 20,000 lb. capacity
- Any coil width
- Special lifting arms can be custom designed
- Capacity to 15 tons
- Made in U.S.A.

**Special lifting arms**

Tubular C-hooks can be furnished with specially shaped lifting arms to meet your requirements. Exact I.D. dimensions are required for quote.



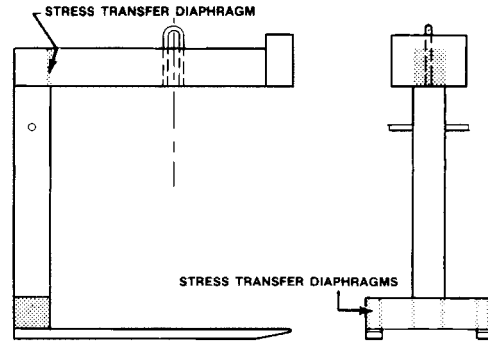
**\*▲WARNING**

- Inspect lifter, moving lifter parts and operating controls for proper operation before each use. Never use malfunctioning or damaged lifter, or one tagged "Out of Service."
- Do not exceed rated load of lifter and crane.
- Make sure load is balanced and stable.
- Avoid shock loads due to sudden starts and stops.
- Make sure lifting ropes and chains are not twisted or kinked.
- Do not lift people. Make sure operator and others are clear of load at all times.
- Make sure load clears objects during moving.

**CM Cady crane forks**

- Ideal for handling palletized loads where lift trucks can't go
- Counter-balanced to hang level when empty
- Load is centered under lifting bail
- Pry bar allows adjustments for pallets of varying widths
- Tubular frame features internal stiffeners for added safety
- Fixed or adjustable forks available
- Lightweight wheeled lifter available for easy, job-to-job, one-man operation
- Capacities from 500 to 40,000 lbs.
- Made in U.S.A.
- See pages 120-121 for ordering information.

**Unique high strength design**



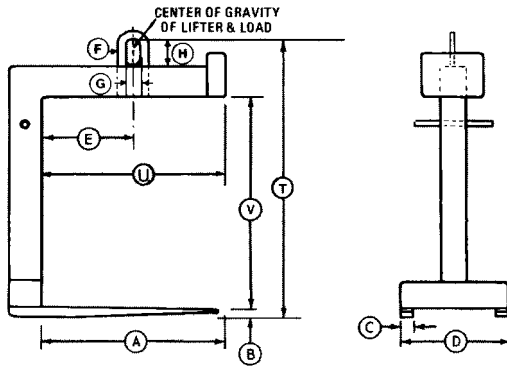
**\*⚠️ WARNING**

- Inspect lifter, moving lifter parts and operating controls for proper operation before each use. Never use malfunctioning or damaged lifter, or one tagged "Out of Service."
- Do not exceed rated load of lifter and crane.
- Make sure load is balanced and stable.
- Avoid shock loads due to sudden starts and stops.
- Make sure lifting ropes and chains are not twisted or kinked.
- Do not lift people. Make sure operator and others are clear of load at all times.
- Make sure load clears objects during moving.

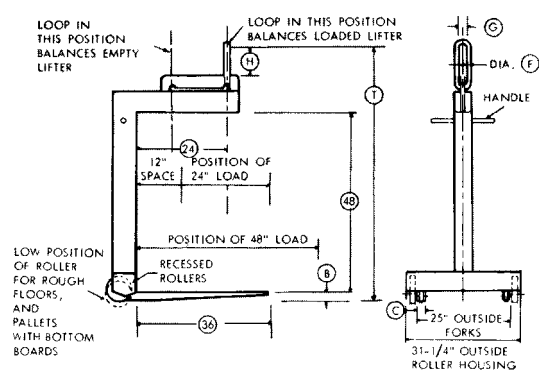
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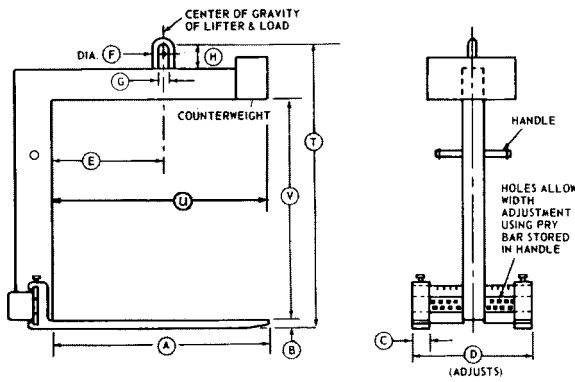
**Standard crane forks – fixed**



**Lightweight wheeled lifters**



**Standard crane forks – adjustable**



See pages 120-121 for ordering information.

**Roto-fork lifters**

- Works in and out of aisles as narrow as 8"
- Lifts loads up to 10,000 lbs. by one operator
- Handles bundles up to 4' high, 8' to 15' long
- Compatible with most overhead crane systems
- Limit switches, safety buzzer alert to load problems or obstructions
- Made in U.S.A.



**How to select and order the proper beam**

CM Cady can design and fabricate a high capacity beam to meet your exact needs. Either way you get the structural integrity and strength of the CM Cady name.

Many component parts such as hooks, shackles, hoist hook attachment loops, and removable "faspins" are stocked and ready for shipment. However, structural components are custom cut to save you money.

To specify the exact beam necessary, CM Cady needs the following information:

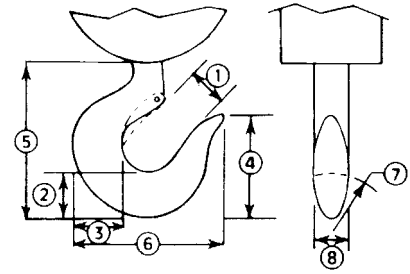
1. Max. weight \_\_\_\_\_ lbs.
2. Shape of load (box, drum, cylinder). Is assembly on a rectangular sub-base? Bundle? Irregularly shaped object? Complex loads require sketch.
3. Where is center of gravity?
  - Horizontal distance from one end \_\_\_\_\_ "
  - Horizontal distance from one side \_\_\_\_\_ "
  - Vertical distance from bottom \_\_\_\_\_ "

(For several different loads, please provide #3 information for each load.)

**Hook dimensions**

1. \_\_\_\_\_ "
2. \_\_\_\_\_ "
3. \_\_\_\_\_ "
4. \_\_\_\_\_ "
5. \_\_\_\_\_ "
6. \_\_\_\_\_ "
7. \_\_\_\_\_ "
8. \_\_\_\_\_ "

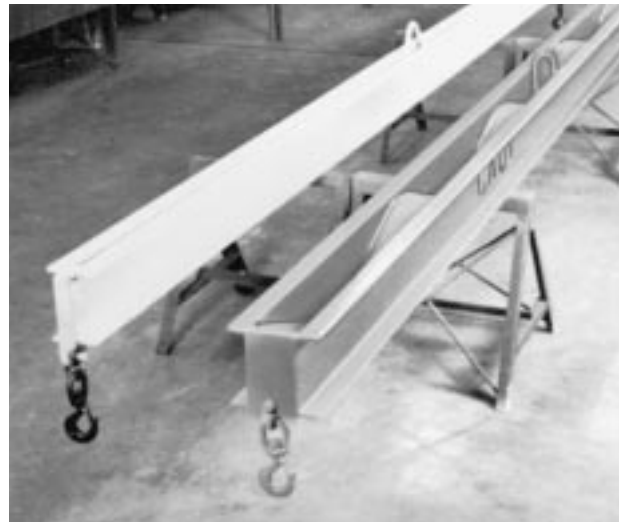
Capacity \_\_\_\_\_ tons



4. Locations/dimensions of holes, lugs or openings used for lifting in relation to outline dimensions and center of gravity.
5. Exposed parts that may be damaged by contact with sling?
6. Size/location of spacing materials under load.
7. Necessary to tilt or change angle of load before setting down?

**Increasing stability & strength**

- CM Cady adds internal stiffeners and/or X bracing to beams
- Prevents lateral deflection or twisting and vertical loading failure
- Adds more than 50% to strength of beam
- Beams over 5 tons furnished with T-1 alloy bail to be 2 to 3 times more resistant to wear
- Swivel hooks and oversized hooks available for versatility in handling loads

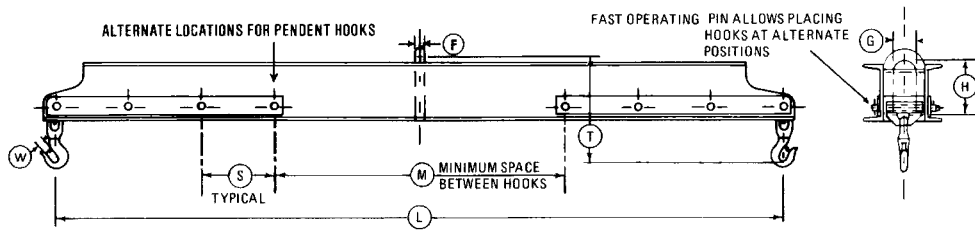


**\*▲WARNING**

- Inspect lifter, moving lifter parts and operating controls for proper operation before each use. Never use malfunctioning or damaged lifter, or one tagged "Out of Service."
- Do not exceed rated load of lifter and crane.
- Make sure load is balanced and stable.
- Avoid shock loads due to sudden starts and stops.
- Make sure lifting ropes and chains are not twisted or kinked.
- Do not lift people. Make sure operator and others are clear of load at all times.
- Make sure load clears objects during moving.

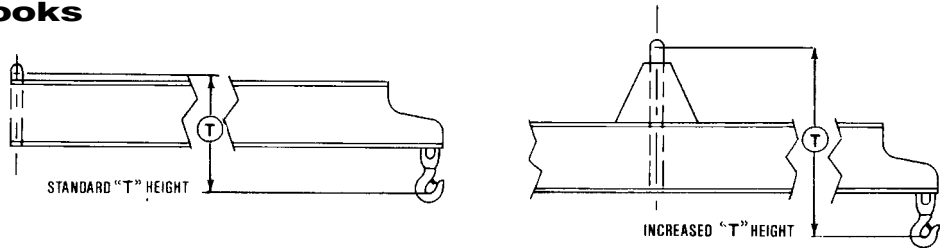
**Low headroom beams with movable hooks**

- Load support hooks easily moved to accommodate various length loads
- Hooks held with quick release pins
- Oversized alloy swivel hooks allow side loading 26° from vertical
- Capacity to 100 tons
- Lengths to 50 feet
- Made in U.S.A.



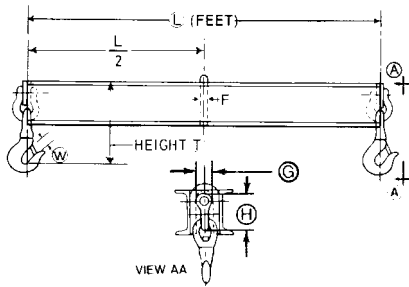
**Optional higher lift hooks**

- Reduces gyrating or rocking of loads
- Standard height "T" lets you gain full advantage of available crane headroom



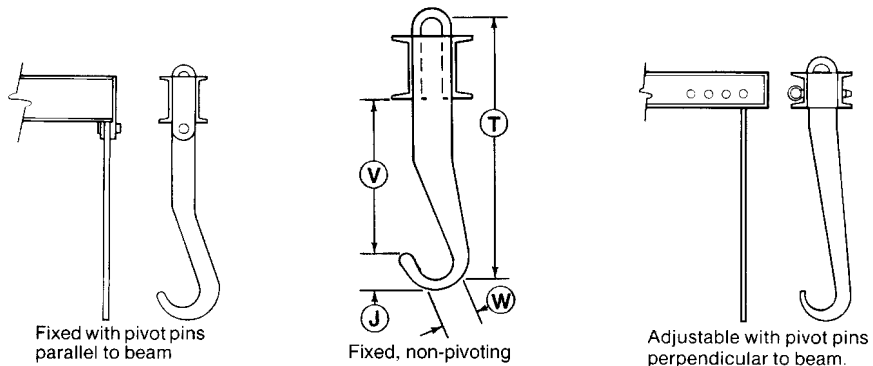
**Low headroom beams with fixed hooks**

- Wide set channels allow crane hook to be lowered between the channels for minimum headroom applications
- Other beam sizes, capacities, lengths and hooks available
- Capacity to 100 tons
- Lengths to 50 feet
- Made in U.S.A.



**Optional roll hooks**

- Roll hooks available for beams of any size
- Available as fixed or adjustable

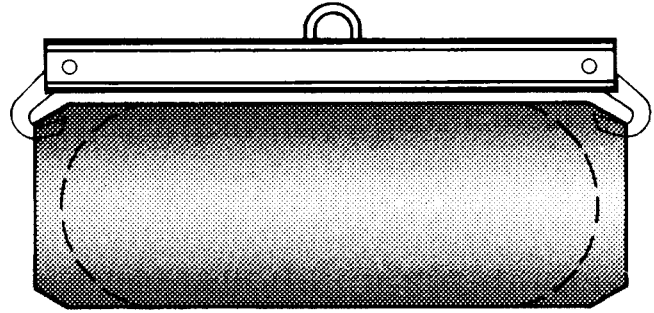
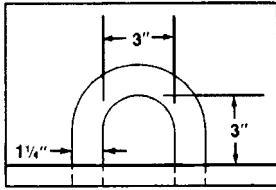


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### Chlorine cylinder lifter

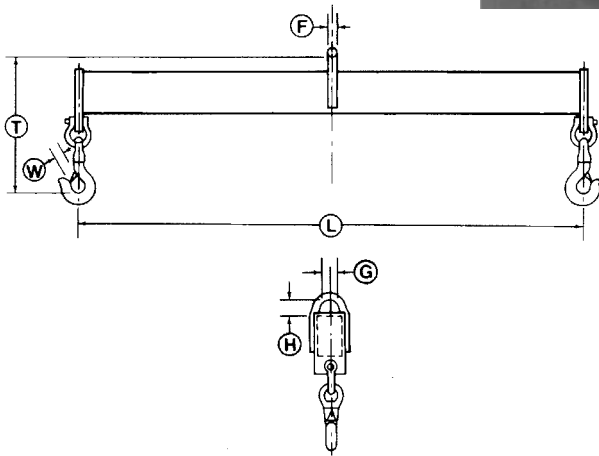
- 4000 lb. or 6000 lb. capacity
- Handles cylinders from 79 1/2" to 82" in length

LIFT LOOP DETAIL



### Low cost beams with fixed hooks

- Offers same strength as low headroom beams
- Oversized alloy swivel hooks allow side loading 26° from vertical
- Available up to 5 tons, up to 15 ft. long
- Made in U.S.A.



### \* ⚠ WARNING

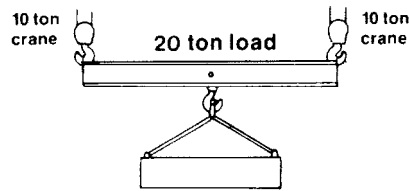
- Inspect lifter, moving lifter parts and operating controls for proper operation before each use. Never use malfunctioning or damaged lifter, or one tagged "Out of Service."
- Do not exceed rated load of lifter and crane.
- Make sure load is balanced and stable.
- Avoid shock loads due to sudden starts and stops.
- Make sure lifting ropes and chains are not twisted or kinked.
- Do not lift people. Make sure operator and others are clear of load at all times.
- Make sure load clears objects during moving.

**Two hoist beams – team two cranes for heavy loads**

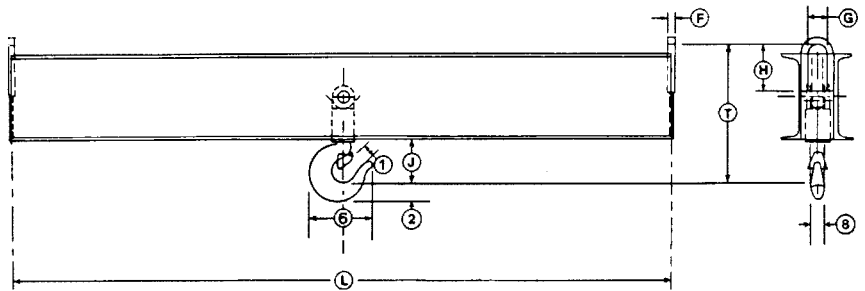
- Designed with sufficient lateral stability to prevent web buckling
- Load tested to twice rated load capacity
- Load turns freely to allow easy shipping or positioning
- Hook is pivoted to prevent binding as beam is raised or lowered
- Beam can be custom-designed to allow use of two cranes of uneven capacity
- Minimum beam weight allows maximum hoist rated load capacity.
- CAUTION: Total capacity of the two hoists must be down rated by the beam weight when calculating the maximum useful load capacity
- Capacity to 75 tons
- Made in U.S.A.



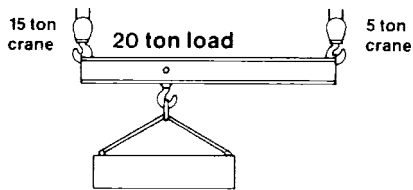
**Standard configuration**



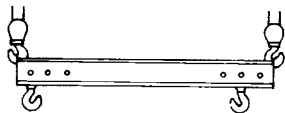
Team two cranes of equal capacity.



**Special configuration**



Custom beam design allows teaming two cranes of unequal capacity.



Two hooks or shackles can be provided below the beam in fixed position or movable as shown.

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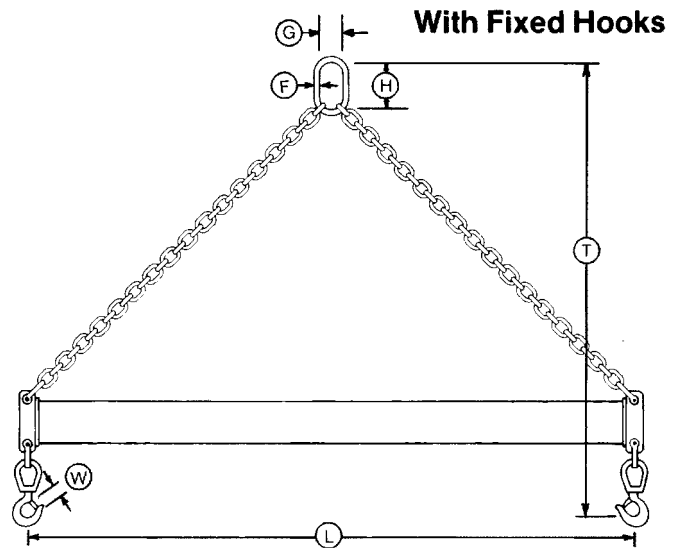
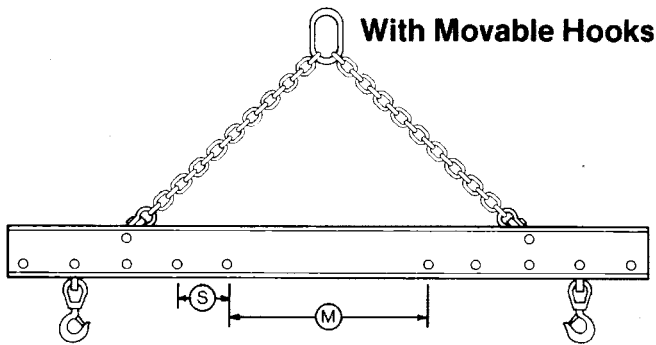
### High capacity beams

- Custom-designed to solve difficult lifting problems
- Sling beams cut from heavy plate and notched for slings
- Made in U.S.A.



### Spreaders

- Available with fixed and movable hooks in any capacity or length
- Ideal when headroom is available
- Much lighter, less expensive than low headroom beams
- Increased height adds to stability, reduces end to end rocking
- Oversized alloy swivel hooks allow side loading 26° from vertical
- Made in U.S.A.



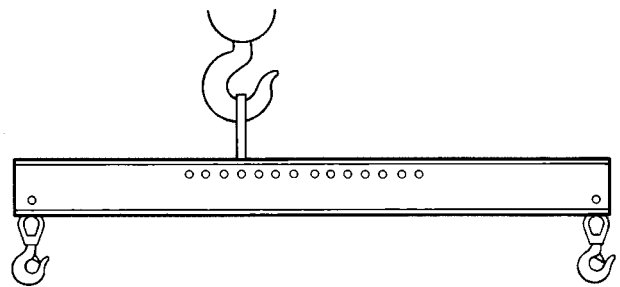
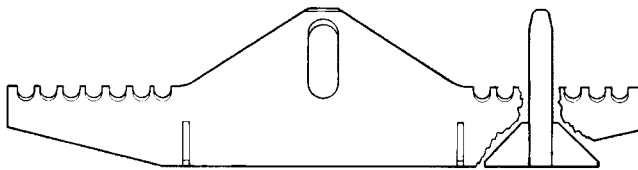
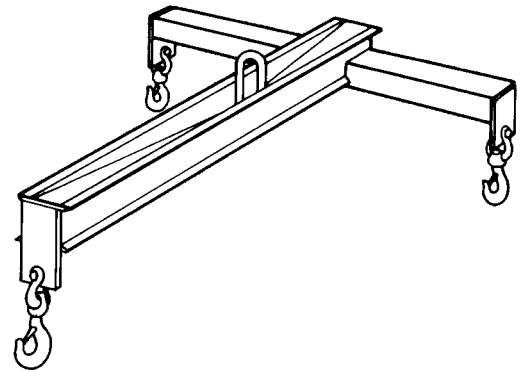
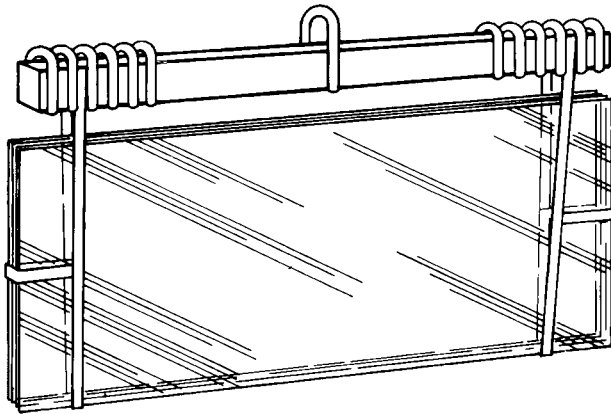
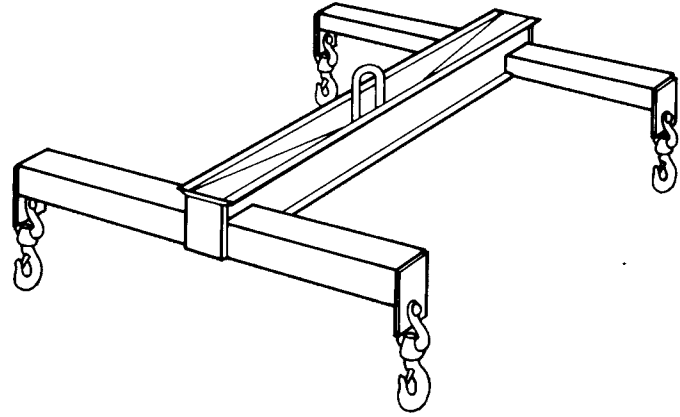
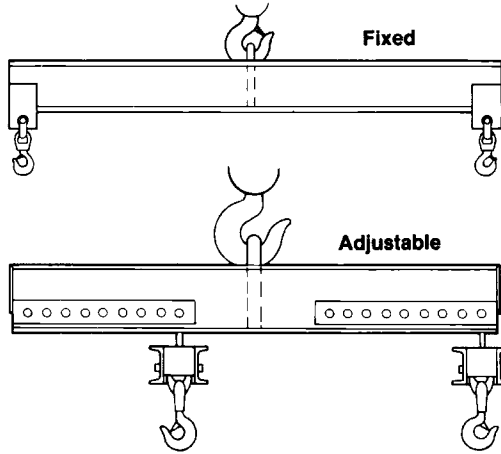
### \*⚠ WARNING

- Inspect lifter, moving lifter parts and operating controls for proper operation before each use. Never use malfunctioning or damaged lifter, or one tagged "Out of Service."
- Do not exceed rated load of lifter and crane.
- Make sure load is balanced and stable.
- Avoid shock loads due to sudden starts and stops.
- Make sure lifting ropes and chains are not twisted or kinked.
- Do not lift people. Make sure operator and others are clear of load at all times.
- Make sure load clears objects during moving.

**Special beam configurations**

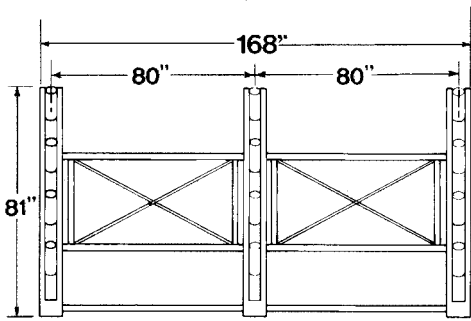
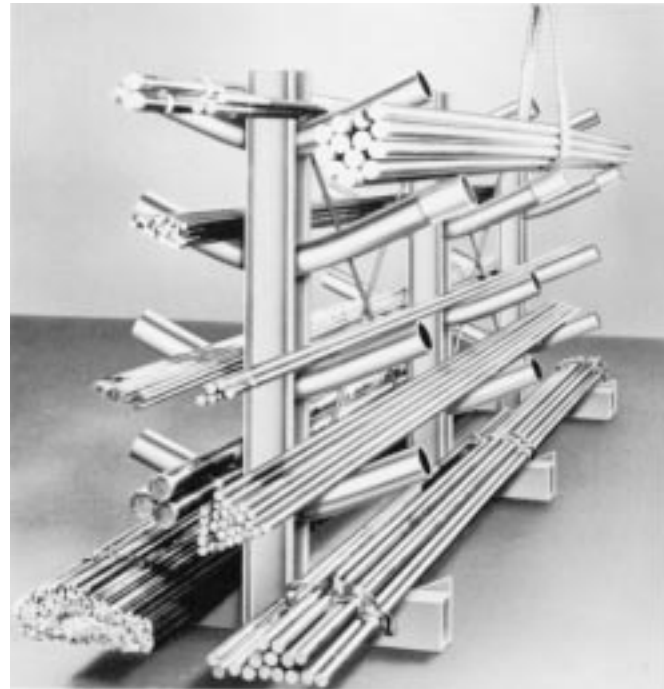
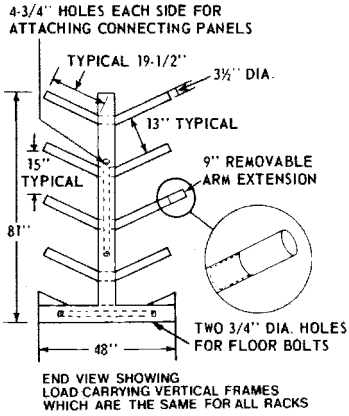
Beams, spreaders and hooks can be custom made to virtually any requirements. Drawings below provide a few examples of options.

- Made in U.S.A.

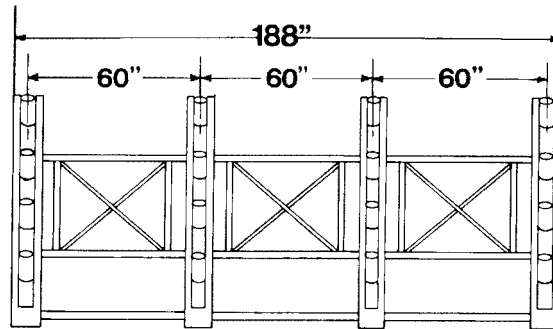


**Bartender rack**

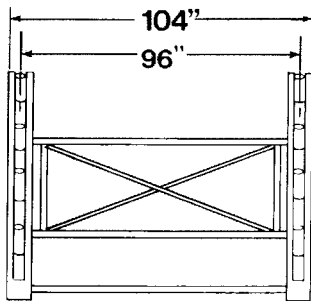
- Provides live storage for bars, pipes, angles, rods, tubes, structurals and mandrels
- Movable arm extensions for easy crane loading of any tiers, any time
- Capacity 2650 lbs. each arm
- Made in U.S.A.



A-40 RACK SIDE VIEW



A-50 RACK SIDE VIEW



A-25 RACK SIDE VIEW

**\* ⚠ WARNING**

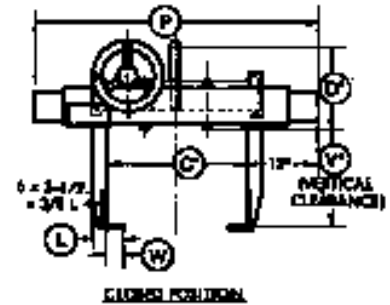
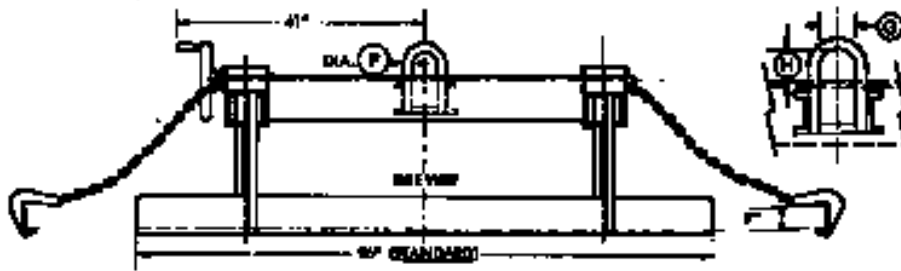
- Inspect lifter, moving lifter parts and operating controls for proper operation before each use. Never use malfunctioning or damaged lifter, or one tagged "Out of Service."
- Do not exceed rated load of lifter and crane.
- Make sure load is balanced and stable.
- Avoid shock loads due to sudden starts and stops
- Make sure lifting ropes and chains are not twisted or kinked
- Do not lift people. Make sure operator and others are clear of load at all times.
- Make sure load clears objects during moving.



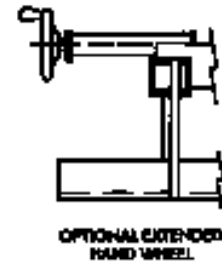
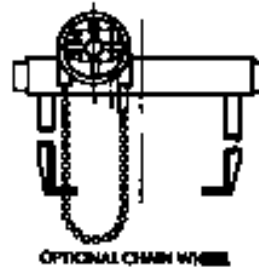
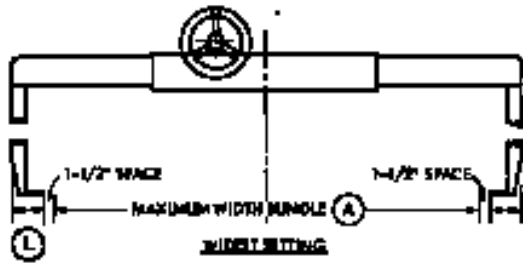
**Telescoping sheet lifters**

- Telescoping design allows efficient low headroom, low-maintenance sheet handling
- Handles sheet bundles, plate, wallboard and plywood
- Can be modified for use with palletized coils, crates and tote boxes
- Saves aisle space
- Self-locking worm gear drive prevents support legs from opening
- Made in U.S.A.

- Accessories available as extras include:
  - Motor drive option with pendant or remote control
  - Longer or shorter side angles available
  - Longer or shorter legs available
  - Can opt for chain wheel with chain loop instead of hand wheel
  - Extended hand or chain wheel
  - Supporting end chains and hooks
  - Capacity to 25 tons
  - Bundle widths to 12 feet



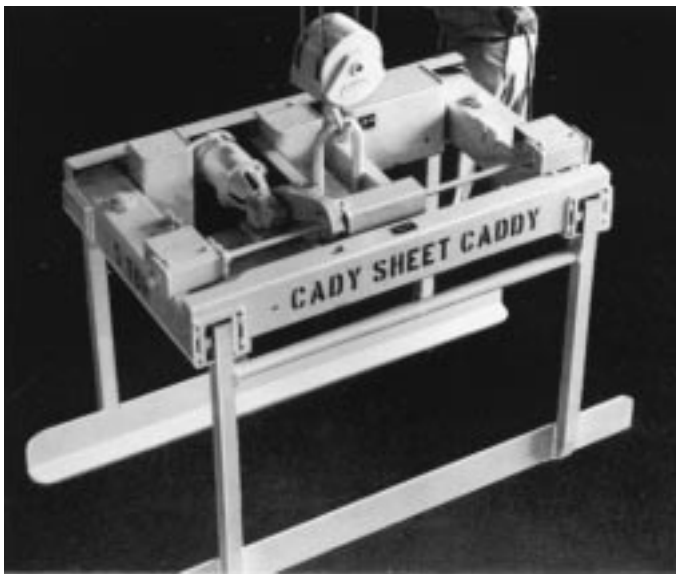
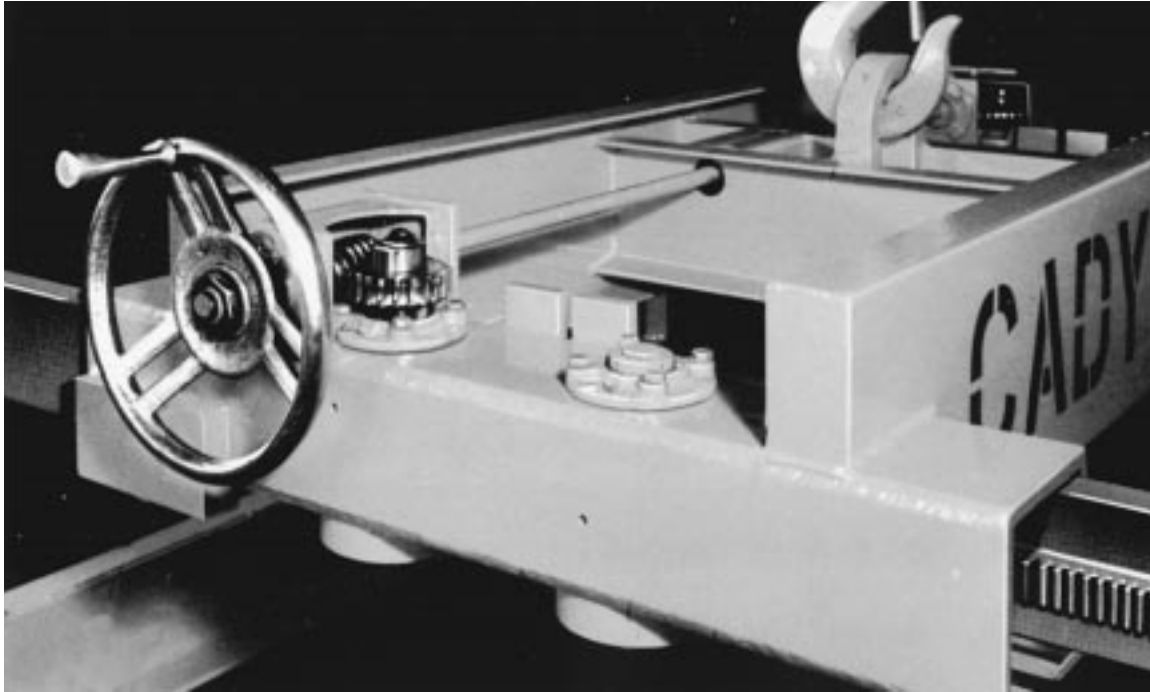
END HOOKS HELP PREVENT EXCESSIVE DEFLECTION OF SOME BUNDLES. AVAILABLE AS EXTRA ACCESSORIES



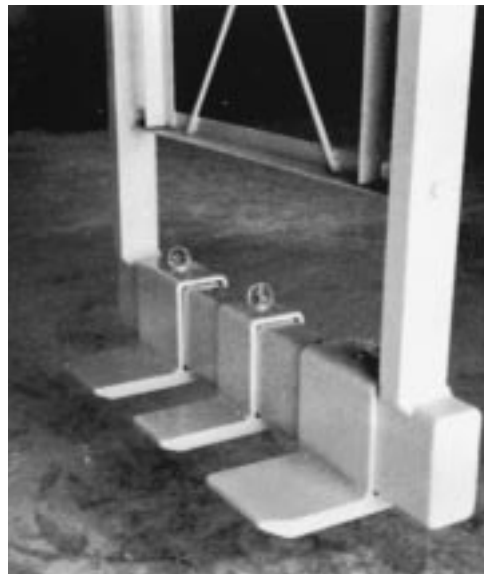
MEX (55) 53 63 23 31 MTY (81) 83 54 10 18  
 QRO (442) 1 95 72 60 ventas@industrialmagza.com  
**INDUSTRIAL MAGZA**  
 DIST. AUTORIZADO

### Unique CM Caddy sheet lifting features

- Bronze worm gears with protective cover for added safety
- Torque limiter in hand wheel protects gears
- Load tested at full extension
- T-1 alloy bail is 2 to 3 times more wear resistant than low carbon steel
- Ball bearings on all shafts
- Self-locking worm gear drive prevents support legs from opening
- Motor drive option allows higher stacking with easy push-button operation
- Adjustable finger support option allows handling of sheets strapped to packing materials



Motor drive option



Finger support option

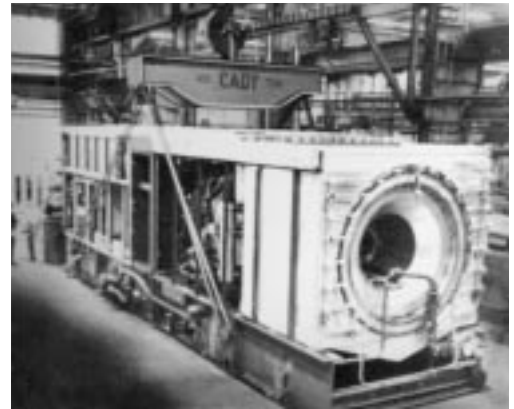
7

INDUSTRIAL MAGAZA<sup>®</sup> MEX (55) 53 63 23 31 QRO (442) 1 95 72 60  
DIST. AUTORIZADO  
VENTAS@INDUSTRIALMAGAZA.COM  
MTY (81) 83 54 10 18

CM Cady lifters are typically custom designed and built for your specific needs. The previous pages provide a broad view of "standard" lifters ordered. However, CM Cady can modify and create lifters for virtually any lifting need.



**Caged pallet lifter for dangerous loads**



**High capacity beam with attachment points below the center of gravity**



**Telescoping lifter with special load support fixtures that clear projections on load**



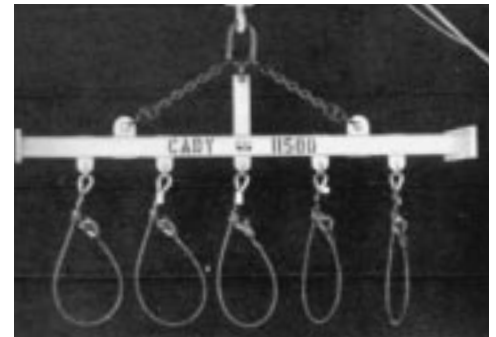
**Barrel lifter**



**Motorized hooks on paper roll beam adjust**



**Telescoping horizontal coil lifter with motor drive option**



**Lifter designed to meet specific customer requirements**



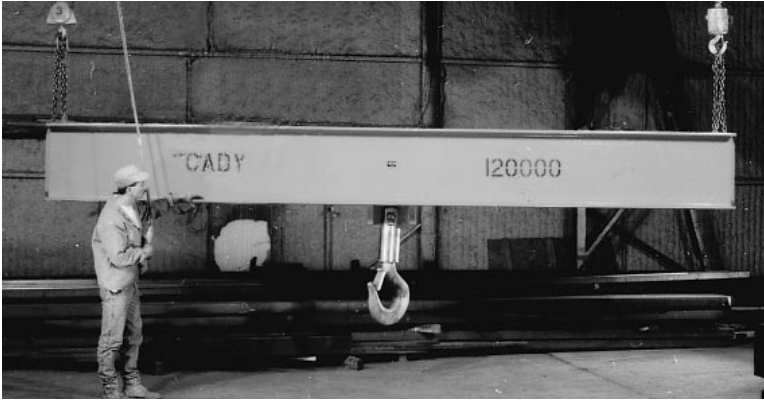
**Low headroom 3 point lifting frame bolts together to facilitate shipment**

**\* ⚠ WARNING**

Overloading and improper use can result in injury.

See page 136

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**60 ton two hoist beam with roller bearing swivel hook**



**Fixed fork pallet lifter with multi-position bail**



**T-1 alloy coil hook**



**Motorized sheet lifter for bundles 48' long x 12' wide**



**Multiple beam assembly for 60' loads**



**Lifter designed to meet specific customer requirements**

**\* ⚠ WARNING**

**Overloading and improper use can result in injury.**

See page 136



## CM Lister

### Lifters

<b>Anchor chain .....</b>	<b>145-146</b>
<b>Buoy chain.....</b>	<b>150</b>
<b>Connecting links .....</b>	<b>147</b>
<b>Conveyor chain.....</b>	<b>153</b>
<b>Heavy construction bolts .....</b>	<b>157</b>
<b>Kiln chain .....</b>	<b>142-143</b>
<b>Kiln chain shackles .....</b>	<b>144</b>
<b>Liner bolt specifications .....</b>	<b>154-155</b>
<b>Log booming chain .....</b>	<b>152</b>
<b>Mooring chain.....</b>	<b>149</b>
<b>Mooring system.....</b>	<b>151</b>
<b>Stockless anchors .....</b>	<b>148</b>
<b>Washer &amp; seal assemblies.....</b>	<b>156</b>



**Thermolink™ kiln chain**

**1997 Standard Materials**

- LISTER LA90** – C1022 Carbon Steel  
(.22% C, .90% Mn, Max.)  
Ambient to 500°C (930°F) Metal Temperature  
As Welded Hardness: 150 BHN  
Heat Treated: 415 BHN
- LISTER LA100** – AISI 8620 Alloy Steel  
(.22% C, .90% Mn, .55% Cr, .50% Ni, .2% Mo, Max)  
Ambient to 565°C (1050°F) Metal Temperature  
As Welded Hardness: 175 BHN  
Heat Treated Hardness: 475 BHN
- LISTER LA165** – 304 Austenitic Stainless Steel  
(18-20% Cr, 8-10.5% Ni, 1% Si, Max)  
Ambient to 900°C (1650°F) Metal Temperature
- LISTER LA170** – Lister 19 Austenitic Stainless Steel  
(17-19% Cr, 3-5% Ni, 7-10% Mn, Max)  
Ambient to 930°C (1700°F) Metal Temperature
- LISTER LA175** – Lister 22 Austenitic Stainless Steel  
(20-23% Cr, 3-5% Ni, 7-10% Mn, Max)  
Ambient to 960°C to 1030°C Metal Temperature  
(1750°F to 1900°F)
- LISTER LA190** – 10F (DIN 1.4742) Ferritic Stainless Steel  
(17-19% Cr, 1-1.5% Si, .7-1.2% Al, Max)  
Metal temperature range: 535°C to 1030°C  
(1000°F to 1900°F)
- LISTER LA200** – 309 Austenitic Stainless Steel  
(22-24% Cr, 12-15% Ni, 1% Si, Max)  
Ambient to 1095°C (2000°F) Metal Temperature
- LISTER LA210** – Lister 26 Austenitic Stainless Steel  
(24-26% Cr, 3-5% Ni, 7-10% Mn, Max)  
Ambient to 1150°C (2100°F) Metal Temperature

Additional Materials are available upon request

**\*▲WARNING**

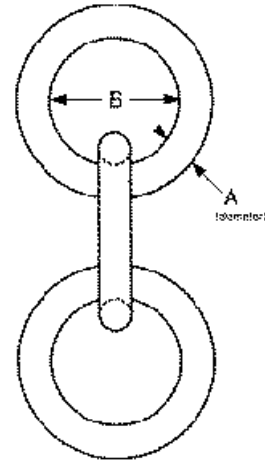
- Inspect for wear, deformation and abuse before use.
- Install, apply and use only as instructed.
- Do not exceed a working load limit of 20-25% of break test load.
- Do not use for critical and overhead lifting applications.

**Thermolink™ kiln chain**

**Round ring kiln chain**

Weights and dimensions

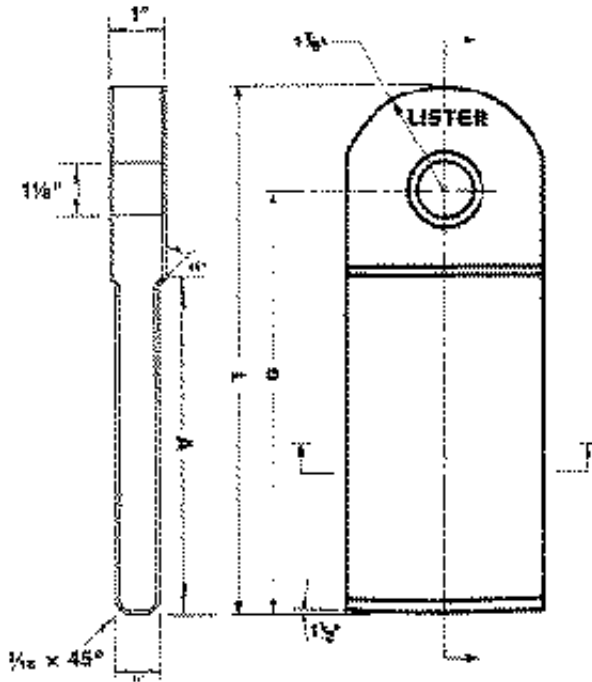
- Carbon Steel
- Hardened Alloy Steel
- Austenitic Stainless Steel
- Ferritic Stainless Steel



A		B		Links per:		Weight per:		Surface area per:	
Chain diameter		Inside diameter		Foot	Meter	Foot	Meter	Foot	Meter
Imperial	Metric	Imperial	Metric	Imperial	Metric	lbs/ft	kg/m	in <sup>2</sup> /ft	cm <sup>2</sup> /M
3/4"	19 mm	3"	76 mm	4	13.2	6	8.9	111	2,395
7/8"	22 mm	3"	76 mm	4	13.2	8.3	12.3	134	2,830
1"	25 mm	3"	76 mm	4	13.2	11.2	16.7	158	3,340
1 1/8"	28 mm	3.5"	89 mm	3.43	11.2	14.3	21.3	175	3,707
1 1/4"	32 mm	3.5"	89 mm	3.43	11.2	18.5	27.5	199	4,216

Additional dimensions are available on request

**Thermolink™ kiln chain hangers**



Hangar variables

L	A	B	Wt.
4	0	2 1/8	3.2 lbs.
8	4	6 1/8	5.4 lbs.
9 3/8	5 3/8	7 1/2	6.4 lbs.

Lister thermolink grade

Metal temperature limit

LA90	930°F/500°C
LA100	1050°F/565°C
LA165	1650°F/900°C
LA200	2000°F/1095°C

**Welding Specifications of Lister Kiln Chain Hangers**

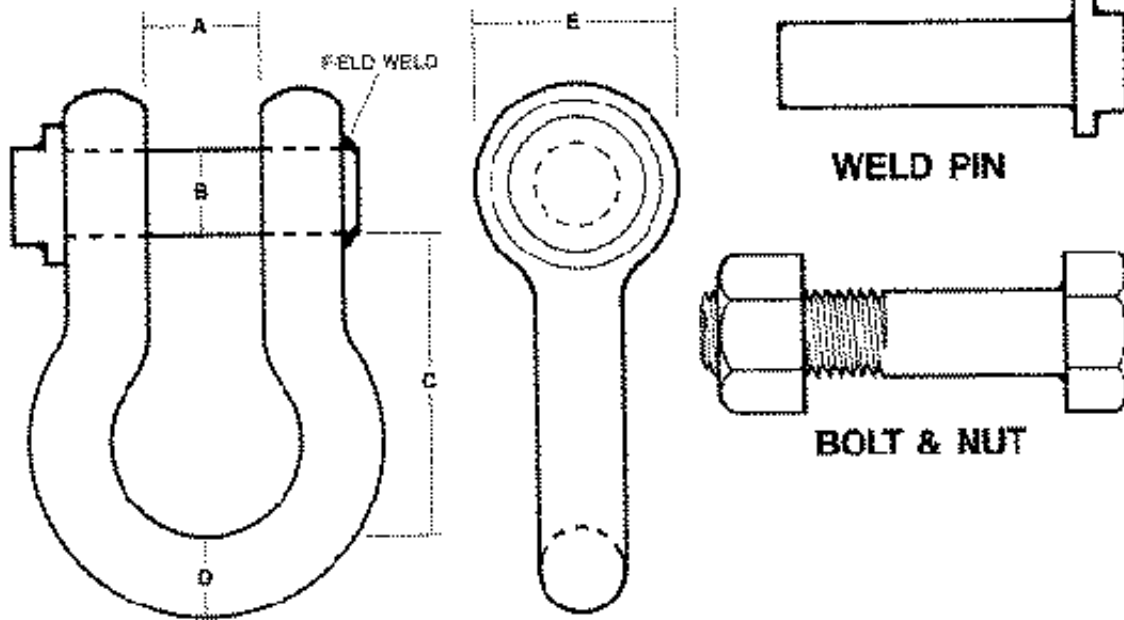
On all fittings, use a 300-400 amp welding machine capable of 140 amp continuous service. Using a 5/32 rod, make three passes on hangers and half links, (pre-heating shell may be desirable).

**Welding Rods**

Carbon Steel Fittings use 7018 or LH 70-72  
 Alloy Steel Fittings use 7018 or LH 70-72  
 Austenitic Stainless Steel Fittings use 309-316L

Applications: For use in wet process cement kilns.

**Thermolink™ kiln chain shackles**



Size inches	A	B	C	D	E	Weight lbs.
7/8	17/16"	As required	3 5/16"	7/8"	2 1/8"	3 1/2
1	1 11/16"	As required	3 3/4"	1"	2 3/8"	5
1 1/8	1 13/16"	As required	3 1/4"	1 1/8"	2 1/2"	7

Lister Thermolink Shackles can be supplied with 3/4", 7/8", 1" and 1 1/8" weld pin, screw pin or bolt & nut.

Lister thermolink grade	Metal temperature limit
LA-90	930°F/500°C
LA-100	1050°F/565°C
LA-165	1650°F/900°C
LA-175	1900°F/1030°C
LA-200	2000°F/1095°C
LA-210	2100°F/1150°C

Applications: For use in wet process cement kilns. Specifically to attach chain strands to hangers.

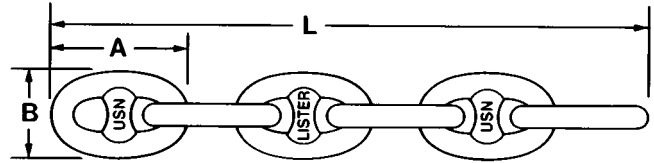
**\*▲WARNING**

- Inspect for wear, deformation and abuse before use.
- Install, apply and use only as instructed.
- Do not exceed a working load limit of 20-25% of break test load.
- Do not use for critical and overhead lifting applications.



Domestic manufacturers of  
**Stud link anchor chain**

**MIL-C-24633  
US NAVY  
DOD**



**Stud link chain dimensions and properties**

Chain size inches	Link length A inches	L Length over 6 links inches			Link width B inches	Number of links per 15-fathom shot	Proof test load (lbs.)	Break test load (lbs.)	Nominal weight per 15-fathom shot (lbs.)*
		Minimum	Nominal	Maximum					
3/4	4 1/2	19 3/8	19 1/2	19 13/16	2 5/8	359	48,000	75,000	480
7/8	5 1/4	22 5/8	22 3/4	23 1/16	3 1/8	305	64,400	98,000	660
1	6	25 7/8	26	26 3/8	3 9/16	267	84,000	129,000	860
1 1/8	6 3/4	29 1/16	29 1/4	29 5/8	4	237	106,000	161,000	1,080
1 1/4	7 1/2	32 5/16	32 1/2	32 15/16	4 1/2	213	130,000	198,000	1,350
1 3/8	8 1/4	35 9/16	35 3/4	36 1/4	4 15/16	193	157,000	235,000	1,630
1 1/2	9	38 13/16	39	39 1/2	5 3/8	177	185,000	280,000	1,940
1 5/8	9 3/4	42	42 1/4	42 7/8	5 7/8	165	216,000	325,000	2,240
1 3/4	10 1/2	45 1/4	45 1/2	46 1/8	6 5/16	153	249,000	380,000	2,590
1 7/8	11 1/4	48 1/2	48 3/4	49 1/2	6 3/4	143	285,000	432,000	2,980
2	12	51 11/16	52	52 3/4	7 3/16	135	318,000	454,000	3,360
2 1/8	12 3/4	54 15/16	55 1/4	56 1/8	7 5/8	125	357,000	510,000	3,790
2 1/4	13 1/2	58 3/16	58 1/2	59 3/8	8 1/8	119	396,000	570,000	4,250
2 3/8	14 1/4	61 7/16	61 3/4	62 3/4	8 9/16	113	440,000	628,000	4,730
2 1/2	15	64 11/16	65	66	9	107	484,000	692,000	5,270
2 5/8	15 3/4	67 7/8	68 1/4	69 1/4	9 7/16	101	530,000	758,000	5,820
2 3/4	16 1/2	71 1/8	71 1/2	72 9/16	9 7/8	97	578,000	826,000	6,410
2 7/8	17 1/4	74 3/8	74 3/4	75 7/8	10 3/8	93	628,000	897,000	7,020
3	18	77 5/8	78	79 3/16	10 13/16	89	679,000	970,000	7,650
3 1/8	18 3/4	80 13/16	81 1/4	82 1/2	11 1/4	87	732,000	1,046,000	8,320
3 1/4	19 1/2	84 1/16	84 1/2	85 3/4	11 11/16	83	787,000	1,124,000	9,010
3 3/8	20 1/4	87 5/16	87 3/4	89	12 1/8	79	843,000	1,204,000	9,730
3 1/2	21	90 9/16	91	92 5/16	12 5/8	77	900,000	1,285,000	10,500
3 5/8	21 3/4	93 13/16	94 1/4	95 5/8	12 15/16	73	958,000	1,369,000	11,300
3 3/4	22 1/2	97 1/16	97 1/2	98 7/8	13 3/8	71	1,019,000	1,455,000	12,000
3 7/8	23 1/4	100 1/4	100 3/4	102 3/16	14	69	1,080,000	1,543,000	12,900
4	24	103 1/2	104	105 1/2	14 3/8	67	1,143,000	1,632,000	13,700
4 3/4	28 1/2	122 15/16	123 1/2	125 5/16	17 1/8	57	1,700,000	2,550,000	18,900

\*Not mandatory, for information only.  
Applications: For use on U.S. Military vessels as well as military ship building projects.



A.B.S.



LLOYD'S



A.P.I.

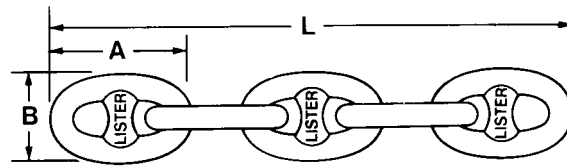
MEX (55) 53 63 23 31 MTY (81) 83 54 10 18  
 QRO (442) 1 95 72 60  
**INDUSTRIAL MAGAZA**  
 DIST. AUTORIZADO

Manufacturers of  
**Stud link anchor chain**



AMERICAN BUREAU  
OF SHIPPING

A.B.S.



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MEX (55) 53 63 23 31  
QRO (442) 1 95 72 60  
INDUSTRIAL MAGAZA  
DIST. AUTORIZADO

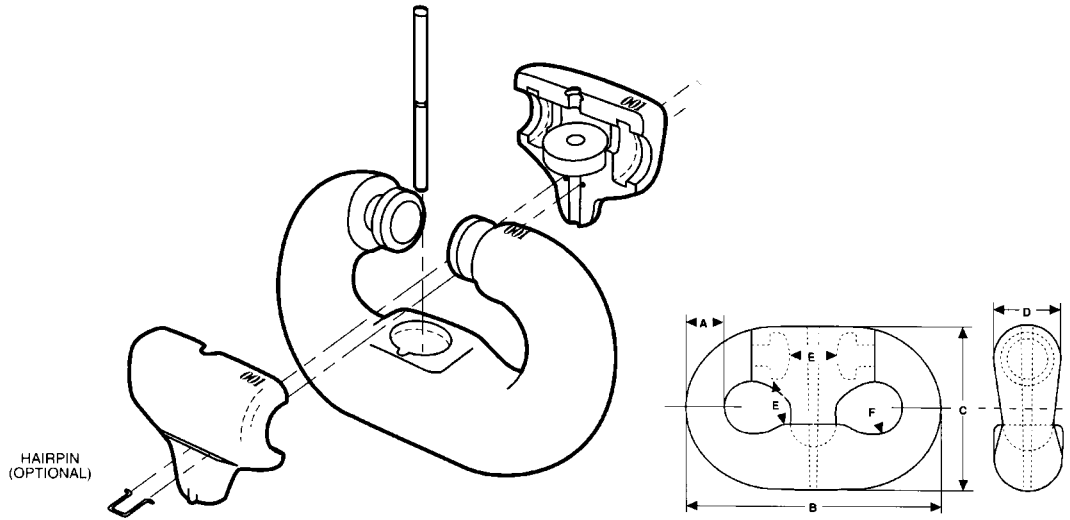
Dimensions

Load test requirements

Chain size		Dimensions				Load test requirements					
inches	mm	Link length A	Link width B	Length over 5-links L	Weight per 15 fmsht (appx.)	Grade 1		Grade 2a		Grade 3a	
						Proof load	Break load	Proof load	Break load	Proof load	Break load
5/8	16	33/4	21/4	133/4	365	16,620	23,745	23,745	33,220	33,220	47,465
3/4	19	41/2	25/8	161/2	480	23,800	34,000	34,000	47,600	47,600	68,000
13/16	20	47/8	27/8	177/8	570	27,800	39,800	39,800	55,700	55,700	79,500
7/8	22	51/4	31/8	191/4	660	32,200	46,000	46,000	64,400	64,400	91,800
15/16	24	55/8	35/16	205/8	760	36,800	52,600	52,600	73,700	73,700	105,000
1	25	6	39/16	22	860	41,800	59,700	59,700	83,600	83,600	119,500
1 1/16	27	63/8	33/4	233/8	970	47,000	67,200	67,200	94,100	94,100	135,000
1 1/8	29	63/4	4	243/4	1,080	52,600	75,000	75,000	105,000	105,000	150,000
1 3/16	30	71/8	41/4	261/8	1,220	58,400	83,400	83,400	116,500	116,500	167,000
1 1/4	32	71/2	41/2	271/2	1,350	64,500	92,200	92,200	129,000	129,000	184,000
1 5/16	33	77/8	43/4	287/8	1,490	70,900	101,500	101,500	142,000	142,000	203,000
1 3/8	34	81/4	415/16	301/4	1,630	77,500	111,000	111,000	155,000	155,000	222,000
1 7/16	36	85/8	53/16	315/8	1,780	84,500	120,500	120,500	169,000	169,000	241,000
1 1/2	38	9	53/8	33	1,940	91,700	131,000	131,000	183,500	183,500	262,000
1 9/16	40	93/8	55/8	343/8	2,090	99,200	142,000	142,000	198,500	198,500	284,000
1 5/8	42	93/4	57/8	353/4	2,240	108,000	153,000	153,000	214,000	214,000	306,000
1 11/16	43	101/8	61/6	371/8	2,410	115,000	166,500	166,500	229,000	229,000	327,000
1 3/4	44	101/2	65/16	381/2	2,590	123,500	176,000	176,000	247,000	247,000	352,000
1 13/16	46	107/8	61/2	397/8	2,790	132,000	188,500	188,500	264,000	264,000	377,000
1 7/8	48	111/4	63/4	411/4	2,980	140,500	201,000	201,000	281,000	281,000	402,000
1 15/16	50	115/8	7	425/8	3,180	149,500	214,000	214,000	299,000	299,000	427,000
2	51	12	73/16	44	3,360	159,000	227,000	227,000	318,000	318,000	454,000
2 1/16	52	123/8	77/16	453/8	3,570	168,500	241,000	241,000	337,000	337,000	482,000
2 1/8	54	123/4	75/8	463/4	3,790	178,500	255,000	255,000	357,000	357,000	510,000
2 3/16	56	131/8	77/8	481/8	4,020	188,500	269,000	269,000	377,000	377,000	538,000
2 1/4	58	131/2	81/8	491/2	4,250	198,500	284,000	284,000	396,000	396,000	570,000
2 5/16	59	137/8	85/16	507/8	4,490	209,000	299,000	299,000	418,000	418,000	598,000
2 3/8	60	141/4	89/16	521/4	4,730	212,000	314,000	314,000	440,000	440,000	628,000
2 7/16	62	145/8	83/4	535/8	4,960	231,000	330,000	330,000	462,000	462,000	660,000
2 1/2	64	15	9	55	5,270	242,000	346,000	346,000	484,000	484,000	692,000
2 9/16	66	153/8	91/4	563/8	5,540	254,000	363,000	363,000	507,000	507,000	726,000
2 5/8	67	153/4	97/16	573/4	5,820	265,000	379,000	379,000	530,000	530,000	758,000
2 11/16	68	161/8	911/16	591/8	6,110	277,000	396,000	396,000	554,000	554,000	792,000
2 3/4	70	161/2	97/8	601/2	6,410	289,000	413,000	413,000	578,000	578,000	826,000
2 13/16	71	167/8	101/8	617/8	6,710	301,000	431,000	431,000	603,000	603,000	861,000
2 7/8	73	171/4	103/8	631/4	7,020	314,000	449,000	449,000	628,000	628,000	897,000
2 15/16	75	175/8	109/16	645/8	7,330	327,000	467,000	467,000	645,000	654,000	934,000
3	76	18	1013/16	66	7,650	340,000	485,000	485,000	679,000	679,000	970,000
3 1/16	78	183/8	11	673/8	7,980	353,000	504,000	504,000	705,000	705,000	1,008,000
3 1/8	79	183/4	11 1/4	683/4	8,320	366,000	523,000	523,000	732,000	732,000	1,046,000
3 3/16	81	191/8	11 1/2	701/8	8,660	380,000	542,000	542,000	759,000	759,000	1,084,000
3 1/4	83	191/2	11 11/16	711/2	9,010	393,000	562,000	562,000	787,000	787,000	1,124,000
3 5/16	84	197/8	11 15/16	727/8	9,360	407,000	582,000	582,000	814,000	814,000	1,163,000
3 3/8	86	201/4	121/8	741/4	9,730	421,000	602,000	602,000	843,000	843,000	1,204,000
3 7/16	87	205/8	123/8	755/8	10,100	435,000	622,000	622,000	871,000	871,000	1,244,000
3 1/2	90	21	125/8	77	10,500	450,000	643,000	643,000	900,000	900,000	1,285,000
3 5/8	92	213/4	1215/16	793/4	11,300	479,000	685,000	685,000	958,000	958,000	1,369,000
3 3/4	95	221/2	133/8	821/2	12,000	509,000	728,000	728,000	1,019,000	1,019,000	1,455,000
3 7/8	98	231/4	14	851/4	12,900	540,000	772,000	772,000	1,080,000	1,080,000	1,543,000
4	102	24	143/8	88	13,700	571,000	816,000	816,000	1,143,000	1,143,000	1,632,000

Applications: For use on commercial vessels as well as commercial ship building projects.

Domestic manufacturers of  
**U.S. Navy detachable chain connecting links**



Chain size		A	B	C	D	E	F	Proof test in pounds	Break test in pounds	Wt. lbs.
inches	mm									
3/4*	19	3/4	4 1/2	3	1 3/64	27/32	1/2	67,500	91,100	2.1
13/16 - 7/8*	21-22	7/8	5 1/4	3 1/2	17/32	63/64	19/32	88,200	119,000	3.4
15/16 - 1*	24-25	1	6	4	125/64	1 1/8	21/32	116,100	156,700	5.1
1 1/16 - 1 1/8*	27-29	1 1/8	6 3/4	4 1/2	19/16	117/64	47/64	145,000	195,000	7.2
1 3/16 - 1 1/4*	30-32	1 1/4	7 1/2	5	147/64	113/32	13/16	178,200	240,600	9.9
1 5/16 - 1 3/8*	33-34	1 3/8	8 1/4	5 1/2	129/32	135/64	29/32	211,500	285,500	13.3
1 7/16 - 1 1/2*	36-38	1 1/2	9	6	25/64	111/16	63/64	252,000	340,200	17.3
1 9/16 - 1 5/8*	40-42	1 5/8	9 3/4	6 1/2	2 1/4	153/64	11/16	292,500	395,000	22
1 11/16 - 1 3/4*	43-44	1 3/4	10 1/2	7	27/16	131/32	13/16	352,000	476,000	27.5
1 13/16 - 1 7/8	46-48	1 7/8	11 1/4	7 1/4	211/32	23/32	115/64	285,000	432,000	32
1 15/16 - 2	50-51	2	12	7 3/4	2 1/2	25/16	15/16	322,000	488,000	36
2 1/16 - 2 1/8	52-54	2 1/8	12 3/4	8 1/4	221/32	2 1/2	113/32	362,000	548,000	44
2 3/16 - 2 1/4	56-58	2 1/4	13 1/2	8 23/32	2 13/16	25/8	1 1/2	403,000	610,000	52
2 5/16 - 2 3/8	59-60	2 3/8	14 1/4	9 7/32	2 31/32	23/4	19/16	447,000	675,000	61
2 7/16 - 2 1/2	62-64	2 1/2	15	9 11/16	3 1/8	27/8	1 21/32	492,000	744,000	71
2 9/16 - 2 5/8	66-67	2 5/8	15 3/4	10 3/16	3 1/4	3 1/16	1 3/4	540,000	813,000	82
2 11/16 - 2 3/4 †	68-70	2 7/8	16 1/2	10 13/16	3 11/16	3 1/4	1 13/16	649,000	981,000	100
2 13/16 - 2 7/8	71-73	2 7/8	17 1/4	11 1/8	3 19/32	3 11/32	1 29/32	640,000	965,000	107
2 15/16 - 3 †	75-76	3 3/16	18	11 7/8	4 3/32	3 3/8	1 29/32	762,000	1,150,000	145
3 1/16 - 3 1/8	78-79	3 1/8	18 3/4	12 1/8	3 29/32	3 5/8	23/64	748,000	1,128,000	138
3 3/16 - 3 1/4	81-83	3 1/4	19 1/2	12 5/8	4 1/16	3 5/8	25/32	805,000	1,250,000	161
3 5/16 - 3 3/8	84-86	3 3/8	20 1/4	13 3/32	4 7/32	3 15/16	2 1/4	862,000	1,304,000	177
3 7/16 - 3 1/2 †	87-89	3 3/4	21 1/8	13 25/32	4 13/16	4 1/8	2 13/32	1,080,000	1,700,000	205
3 11/16 - 3 3/4	94-95	3 3/4	22 1/2	14 1/2	4 11/16	4 11/16	27/16	1,045,900	1,575,000	256
4 3/4	120	4 3/4	28 1/2	18 7/16	5 15/16	5 1/2	3 1/8	1,700,000	2,550,000	590

\*High strength pattern †Heavy duty pattern  
 Applications: For linking shots of military spec. chain together.

Military Specification MIL-L-2710

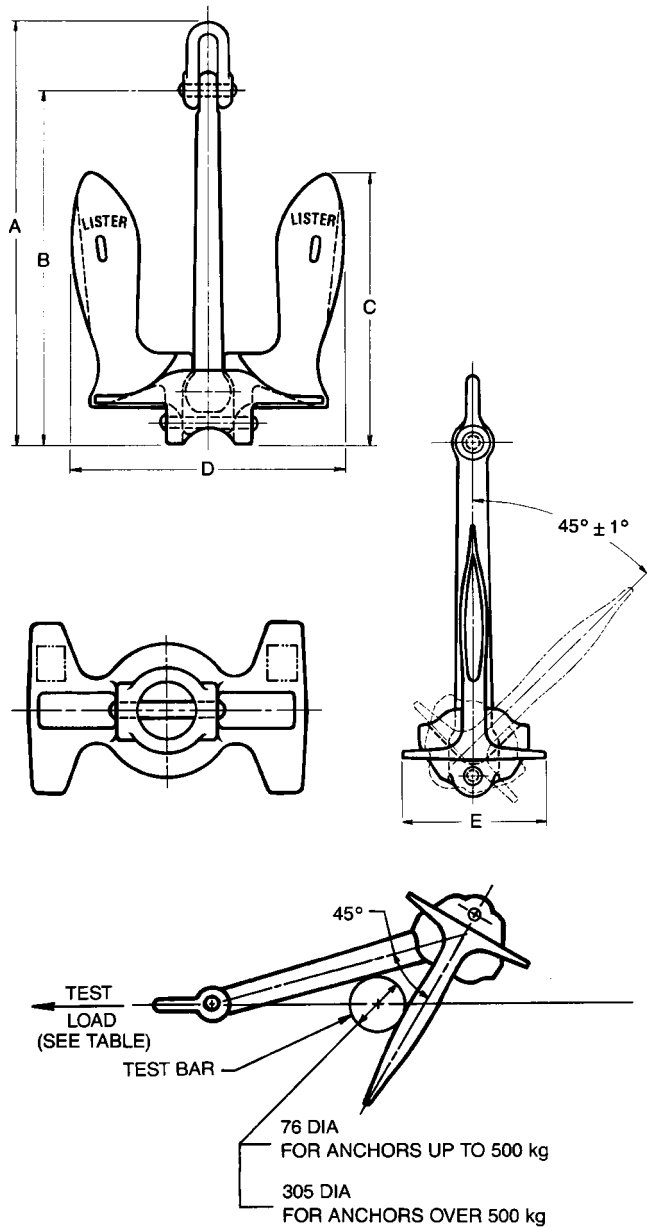


**\*▲WARNING**

- Inspect for wear, deformation and abuse before use.
- Install, apply and use only as instructed.
- Do not exceed a working load limit of 20-25% of break test load.
- Do not use for critical and overhead lifting applications.

Domestic manufacturers of  
**U.S.N. stockless anchors**

MEX (55) 53 63 23 31 MTY (81) 83 54 10 18  
 QRO (442) 1 95 72 60 ventas@industrialmagza.com  
**INDUSTRIAL MAGZA**  
 DIST. AUTORIZADO

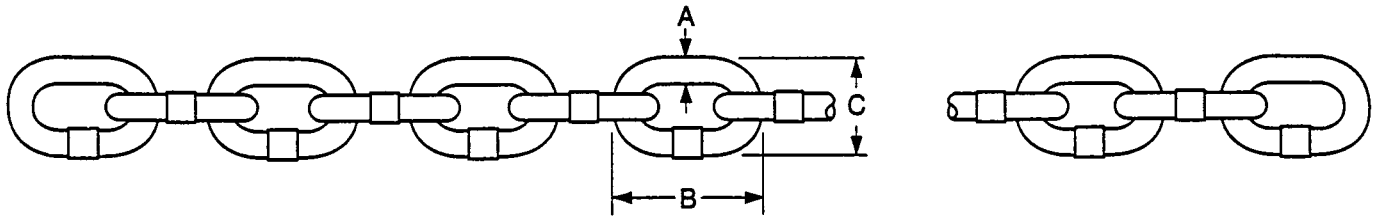


**DIAGRAM SHOWING METHOD OF APPLYING PROOF LOAD**

Nom. mass		Actual mass of anchor	Outline dimensions (millimeters)					Anchor test load
kg.	lbs.	kg.	A	B	C	D	E	kg.
50	100	45						
100	200	90						
150	300	136	1,015	852	642	635	348	5,243
200	400	181	1,117	938	706	699	383	6,132
250	500	226	1,203	1,010	767	753	413	6,994
300	600	272	1,278	1,073	808	800	439	7,833
350	700	317						
400	800	362	1,407	1,182	890	880	483	9,512
450	900	408						
500	1,000	453	1,515	1,273	958	948	520	11,203
550	1,100	498						
600	1,200	544	1,611	1,353	1,019	1,008	553	12,864
650	1,300	589	1,654	1,389	1,046	1,035	568	13,703
700	1,400	635						
750	1,500	680	1,735	1,457	1,097	1,086	596	15,336
800	1,600	725						
850	1,700	771						
900	1,800	816	1,844	1,548	1,166	1,154	633	17,690
950	1,900	861						
1,000	2,000	907	1,908	1,602	1,207	1,195	655	19,255
1,100	2,200	997	1,971	1,655	1,247	1,234	677	20,743
1,250	2,500	1,134	2,057	1,727	1,301	1,287	706	22,980
1,500	3,000	1,360	2,496	2,140	1,413	1,397	775	26,515
1,750	3,500	1,587	2,301	1,932	1,456	1,440	790	30,040
2,000	4,000	1,814	2,406	2,020	1,522	1,506	826	33,440
2,500	5,000	2,268	2,592	2,176	1,639	1,622	890	39,630
3,000	6,000	2,721	2,754	2,313	1,742	1,724	946	45,250
3,500	7,000	3,175	2,899	2,435	1,834	1,815	995	50,550
4,000	8,000	3,628	3,031	2,545	1,917	1,897	1,041	55,260
4,500	9,000	4,082	3,153	2,647	1,994	1,973	1,082	59,640
5,000	10,000	4,536	3,265	2,742	2,065	2,044	1,121	63,880
5,500	11,000	4,989	3,371	2,831	2,132	2,110	1,157	67,630
6,000	12,000	5,443	3,470	2,914	2,195	2,172	1,191	71,030
6,500	13,000	5,896	3,564	2,993	2,254	2,231	1,224	74,430
7,250	14,500	6,577	3,689	3,098	2,333	2,313	1,267	78,970
7,500	15,000	6,804	3,741	3,142	2,320	2,340	1,284	
8,000	16,000	7,257	3,819	3,207	2,416	2,390	1,311	83,230
9,000	18,000	8,164	3,972	3,335	2,512	2,486	1,364	88,320
10,000	20,000	9,072	4,114	3,454	2,602	2,575	1,412	92,860
11,250	22,500	10,206	4,274	3,589	2,703	2,678	1,467	98,430
12,500	25,000	11,340	4,432	3,722	2,803	2,774	1,522	105,280
15,000	30,000	13,608	4,708	3,954	2,978	2,948	1,617	114,670
17,500	35,000	15,876	4,956	4,162	3,135	3,103	1,702	122,430
20,000	40,000	18,144	5,183	4,353	3,279	3,245	1,780	128,950
22,500	45,000	20,412	5,391	4,527	3,410	3,375	1,851	134,450

Applications: For use on U.S. Navy ships and military ship building projects.

Domestic manufacturers of  
**Open link**  
**Mooring chain**



Chain length as required

Typical test results achieved by Lister Process

Dimensions			Carbon steel (as welded)		Alloy steel (heat treated)		Approx. weight per foot (lbs.)
A	B	C	Proof load (lbs.)	Break test load (lbs.)	Proof load (lbs.)	Break test load (lbs.)	
1/2	3	17/8	10,500	18,750	17,550	30,500	2.3
5/8	3 3/4	2 3/16	16,380	29,250	27,560	47,700	3.6
3/4	4 1/2	2 11/16	22,400	40,000	41,860	76,450	4.8
7/8	5 1/4	3 1/8	30,800	55,000	52,260	93,500	6.6
1	6	3 9/16	40,600	72,500	70,330	122,000	8.6
1 1/8	6 3/4	4	53,900	96,250	80,990	143,000	10.8
1 1/4	7 1/2	4 7/16	63,700	113,750	104,650	180,000	13.5
1 1/2	9	5 5/16	91,700	163,750	145,600	244,000	19.4
1 5/8	9 3/4	5 13/16	107,100	191,250	159,900	270,000	22.7
1 3/4	10 1/2	6 1/4	121,100	216,250	184,600	312,000	26.3
1 7/8	11 1/4	6 11/16	140,000	250,000	211,900	360,000	30.1
2	12	7	161,000	287,500	240,500	410,000	34.3

Applications: For use on general marine construction projects such as; fender systems, docks & wharfs, fish farming pens, topper buoys & other mooring applications.

**\* ⚠ WARNING**

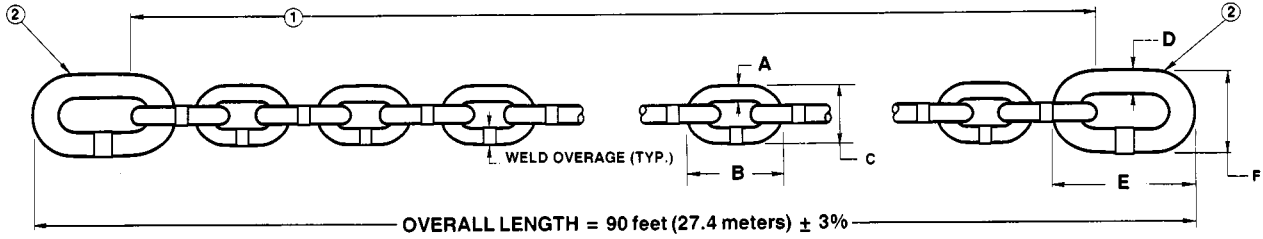
- Inspect for wear, deformation and abuse before use.
- Install, apply and use only as instructed.
- Do not exceed a working load limit of 20-25% of break test load.
- Do not use for critical and overhead lifting applications.

Domestic manufacturers of navigational aid

**Buoy chain**

MEX (55) 53 63 23 31 MTY (81) 83 54 10 18  
 QRO (442) 1 95 72 60 ventas@industrialmagza.com

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①				②				Approx. weight per shot (lbs.)	Proof load lb.	Break load lb.
A	B	C	Tolerance (B & C)	D	E	F	Tolerance (E & F)			
1/2	3	1 7/8	± 1/32	3/4	4 1/2	2 11/16	± 1/16	200	7,500	15,000
3/4	4 1/2	2 11/16	± 1/16	7/8	5 1/4	3 1/8	± 1/16	435	16,000	32,000
7/8	5 1/4	3 1/8	± 1/16	1 1/8	6 3/4	4	± 3/32	595	22,000	44,000
1	6	3 9/16	± 3/32	1 1/4	7 1/2	4 7/16	± 1/8	772	29,000	58,000
1 1/8	6 3/4	4	± 3/32	1 1/4	7 1/2	4 7/16	± 1/8	969	38,500	77,000
1 1/4	7 1/2	4 7/16	± 1/8	1 1/2	9	5 5/16	± 5/32	1,204	45,500	91,000
1 1/2	9	5 5/16	± 5/32	1 7/8	11 1/4	6 11/16	± 3/16	1,738	65,500	131,000
1 5/8	9 3/4	5 13/16	± 5/32	1 7/8	11 1/4	6 11/16	± 3/16	2,027	76,500	153,000
1 3/4	10 1/2	6 1/4	± 3/16	2 1/8	12 3/4	7 7/16	± 1/4	2,345	86,500	173,000
1 7/8	11 1/4	6 11/16	± 3/16	2 1/8	12 3/4	7 7/16	± 1/4	2,685	100,000	200,000

USCG—E/GICP-254

	Dia. Tolerance	
	Plus	Minus
(A & D)		
1/2-1 1/2	1/32	1/64
1 5/8-2 1/8	1/16	1/64

Applications: For use on navigation markers for U.S. Coast Guard, Public Works Canada and other navigation jurisdictions.

**\* ⚠ WARNING**

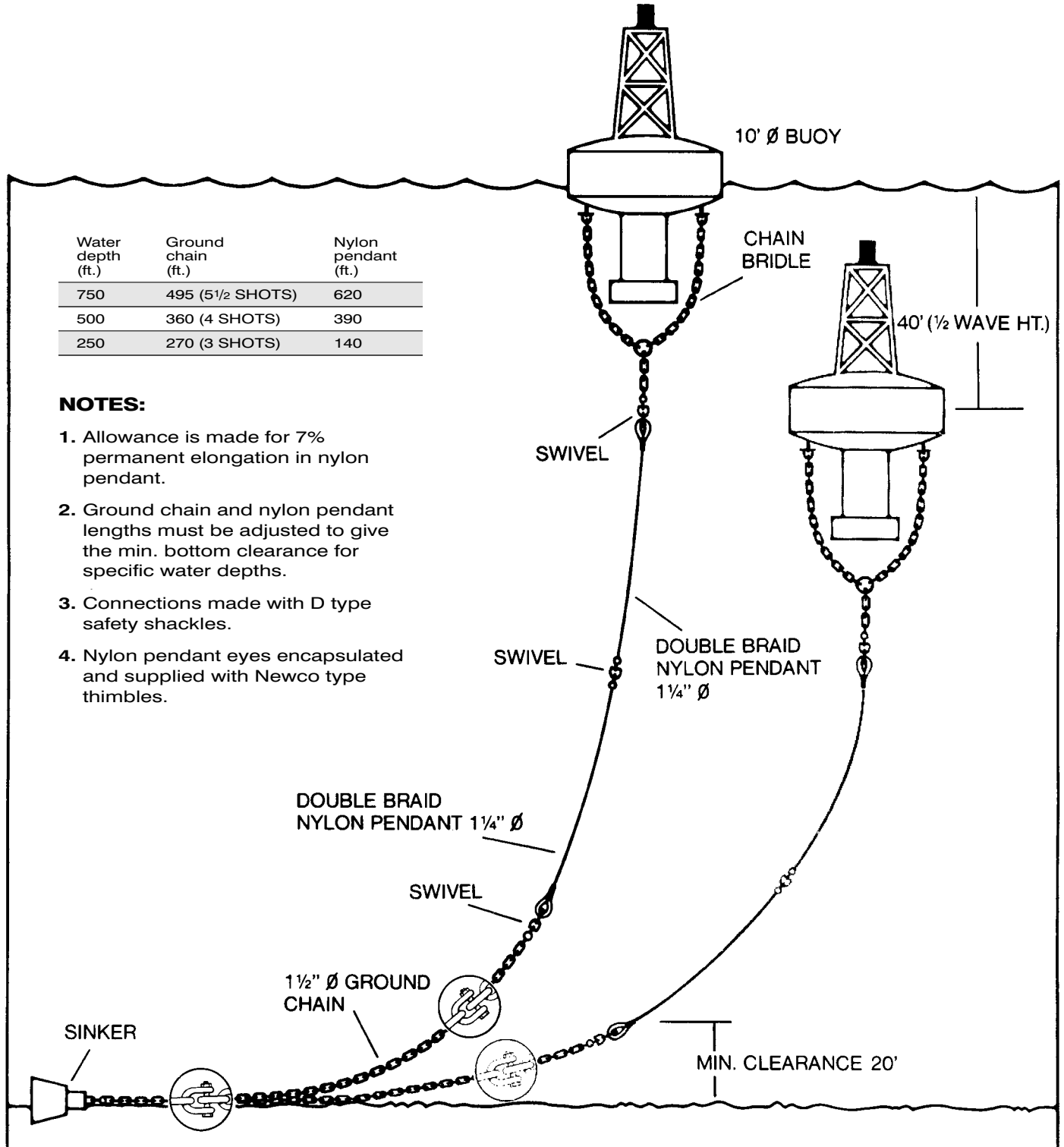
- Inspect for wear, deformation and abuse before use.
- Install, apply and use only as instructed.
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- Do not use for critical and overhead lifting applications.

Deep water mooring system

Water depth (ft.)	Ground chain (ft.)	Nylon pendant (ft.)
750	495 (5 1/2 SHOTS)	620
500	360 (4 SHOTS)	390
250	270 (3 SHOTS)	140

NOTES:

1. Allowance is made for 7% permanent elongation in nylon pendant.
2. Ground chain and nylon pendant lengths must be adjusted to give the min. bottom clearance for specific water depths.
3. Connections made with D type safety shackles.
4. Nylon pendant eyes encapsulated and supplied with Newco type thimbles.

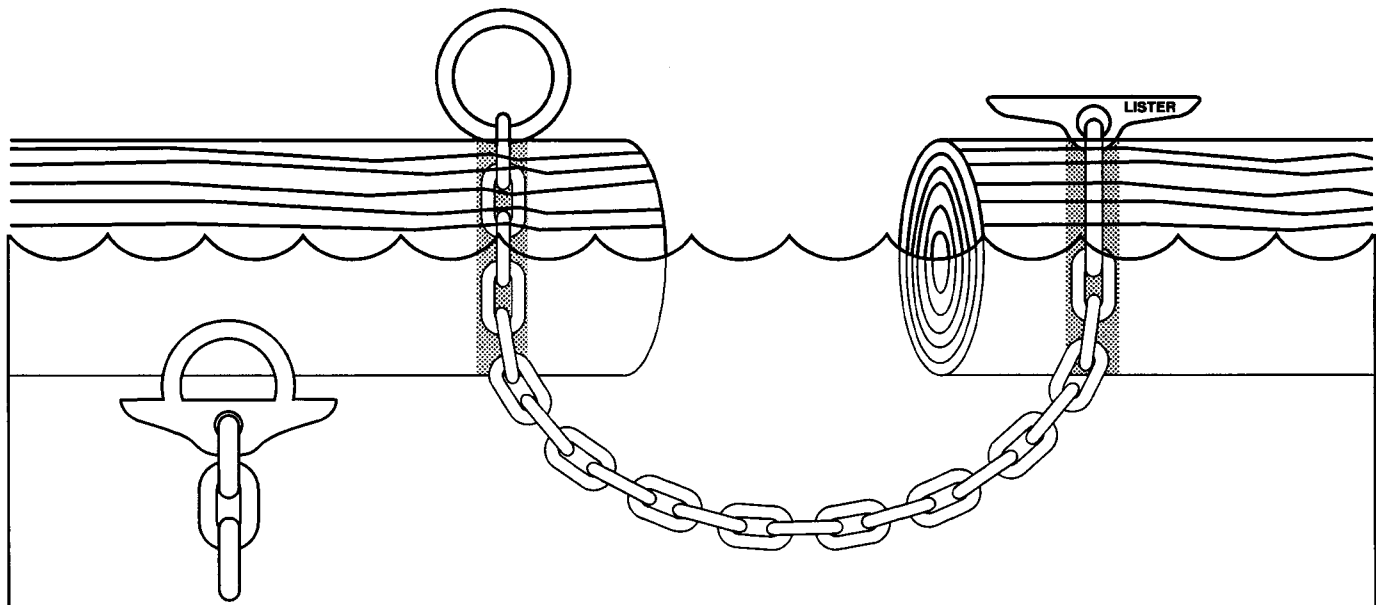


Applications: For use on navigation markers for U.S. Coast Guard, Public Works Canada and other navigation jurisdictions.

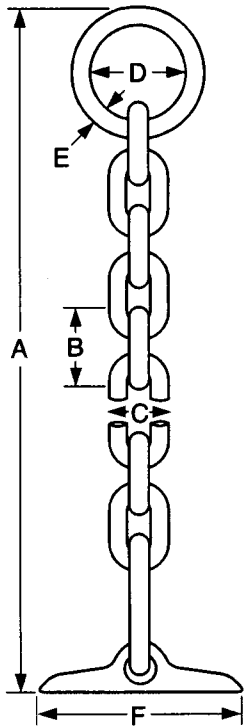
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 QRO (442) 1 95 72 60 ventas@industrialmagza.com  
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Log booming chain

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 QRO (442) 1 95 72 60 ventas@industrialmagza.com  
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Columbia River Pattern



Pacific Coast Pattern

Nominal diameter	Carbon steel				Alloy
	3/4"	7/8"	1"	1 1/8"	3/4"
A	7'-0"	7'-0"	7'-0"	9'-10"	7'-0"
B	4 1/2"	5 1/4"	6"	6 3/4"	4 1/2"
C	2 5/8"	3 1/8"	3 1/2"	3 7/8"	2 5/8"
D	6"	6"	6"	6"	6"
E	1"	1 1/8"	1 1/4"	1 1/4"	1"
F	12"	12"	12"	12"	12"
Average breaking strength lbs.	50,000	70,000	90,000	110,000	80,000
Approx. weight lbs.	38	50	65	113	38

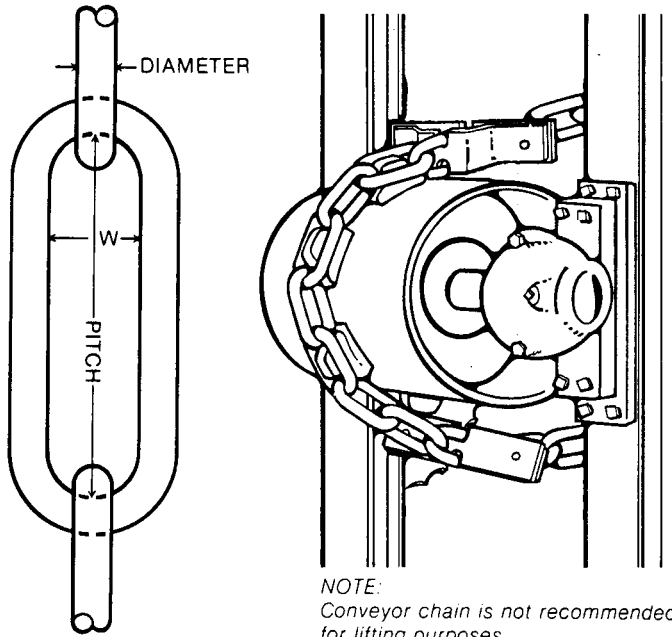
Other diameters and lengths available on request.

Applications: For use on log booming – West coast from Oregon to Alaska.



Domestic manufacturers of  
**Long link alloy sawmill conveyor chain**

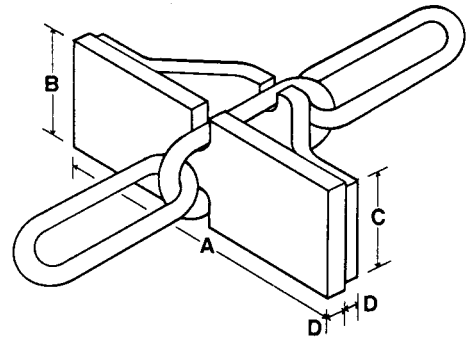
**Chain**



NOTE:  
Conveyor chain is not recommended  
for lifting purposes.

**Skookum flights**

Chain size	Recommended sizes			
	A	B	C	D
3/4 x 1 1/2 x 6	A	3	2 1/2	5/8
7/8 x 1 1/2 x 6	S	3 1/2	3	5/8
1 x 1 1/2 x 6	R	3 1/2-4	3	3/4
1 x 1 3/4 x 6	E	3 1/2-4	3	3/4
1 1/8 x 1 1/2 x 6	Q	3 1/2	3	3/4
1 1/8 x 1 3/4 x 6	U	3 1/2	3	3/4
1 1/8 x 2 x 6	E	3 1/2-4	3	3/4
1 1/4 x 2 x 6	D	3 1/2	3	3/4



Chain diameter		Inside width		Pitch	Average weight per foot – lbs.	Proof load – lbs.	Breaking load – lbs.
3/4	x	1 1/2	x	6	4.00	32,200	65,500
7/8	x	1 1/2	x	6	5.40	40,200	93,500
1	x	1 1/2	x	6	7.10	54,100	122,000
1	x	1 3/4	x	6	7.30	54,100	122,000
1 1/8	x	1 1/2	x	6	9.70	62,300	143,000
1 1/8	x	1 3/4	x	6	9.30	62,300	143,000
1 1/8	x	2	x	6	9.90	62,300	143,000
1 1/4	x	2	x	6	12.30	80,500	180,000
1 1/2	x	2 1/4	x	8	17.25	112,000	244,000

Other sizes available on request / Connecting Links and Lap Links for all Chain Sizes / All Dimensions in Inches

Applications: For use on forest industry conveyor systems.

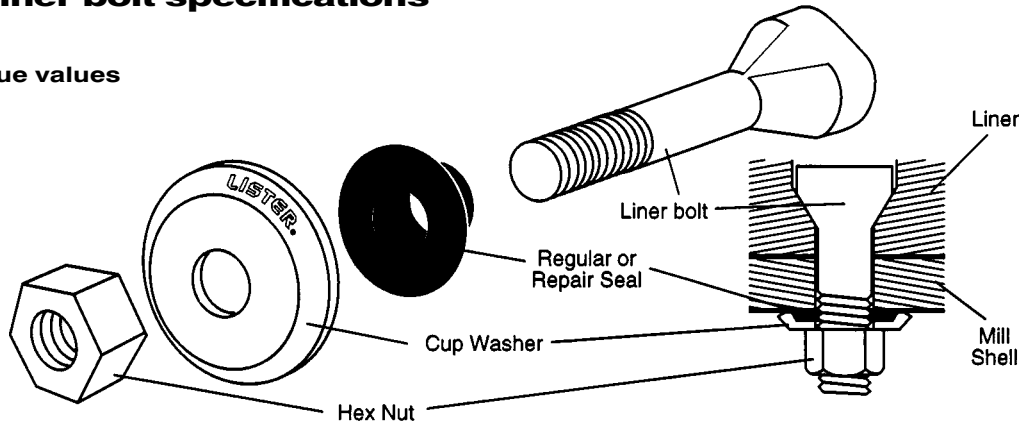
**\* ⚠ WARNING**

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- Do not use for critical and overhead lifting applications.

# Grinding mill liner bolt specifications

## Recommended torque values

Imperial



Bolt diameter	Proof load PSI	Tensile strength PSI min.	Recommended torque		
			UNC	UNF	8-UN
3/4"	55,000	74,000	190	213	0
7/8"	33,000	60,000	194	214	0
1"	33,000	60,000	291	318	291
1 1/8"	33,000	60,000	412	462	427
1 1/4"	33,000	60,000	581	644	600
1 1/2"	33,000	60,000	1,012	1,138	1,074
1 3/4"	33,000	60,000	1,596	1,840*	1,774
2"	33,000	60,000	2,400	2,774*	2,659

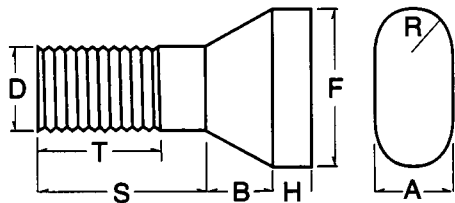
\*12-UN

Bolt diameter	Proof load PSI	Tensile strength PSI min.	Recommended torque		
			UNC	UNF	8-UN
3/4"	120,000	150,000	434	485	0
7/8"	120,000	150,000	701	772	0
1"	120,000	150,000	1,050	1,149	1,050
1 1/8"	120,000	150,000	1,488	1,669	1,541
1 1/4"	120,000	150,000	2,100	2,325	2,167
1 1/2"	120,000	150,000	3,653	4,111	3,879

Bolt diameter	Proof load PSI	Tensile strength PSI min.	Recommended torque		
			UNC	UNF	8-UN
3/4"	85,000	120,000	307	343	0
7/8"	85,000	120,000	496	546	0
1"	85,000	120,000	743	813	743
1 1/8"	74,000	105,000	927	1,040	960
1 1/4"	74,000	105,000	1,308	1,449	1,350
1 1/2"	74,000	105,000	2,276	2,561	2,417

Bolt diameter	Proof load PSI	Tensile strength PSI min.	Recommended torque	
			UNC	8-UN
1 3/4"	55,000	90,000	2,571	2,815
2"	55,000	90,000	3,867	4,285

Bolt diameter	Proof load PSI	Tensile strength PSI min.	Recommended torque	
			UNC	8-UN
<b>Grade BC</b>				
1 3/4"	105,000	125,000	4,832	5,290
2"	105,000	125,000	7,267	8,051
<b>Grade BD</b>				
1 3/4"	120,000	150,000	5,763	6,309
2"	120,000	150,000	8,667	9,603



**Torque values assume bolt is dry. Lubricants, plating, etc., can reduce these values.**

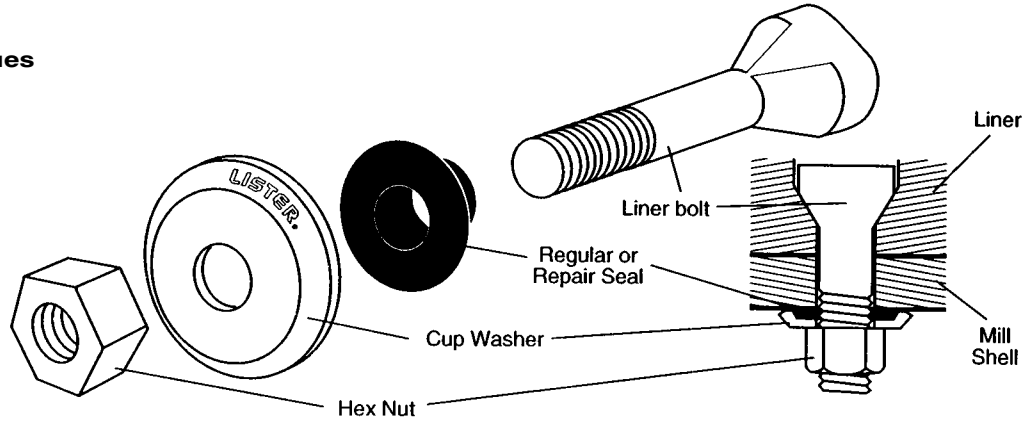
Our extensive inventory of forging dies covers all popular Liner Bolt head configurations. Special dies are readily made for custom requirements.

Applications: For use in fastening cast liners to the shells of grinding mills in the mining and cement industries.

## Grinding mill liner bolt specifications

### Recommended torque values

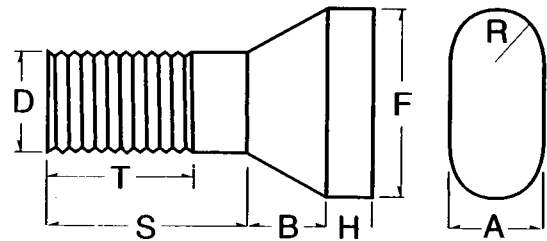
Metric  
ASTM F 568-91



CLASS 4.6			Similar to Gr. 2
Bolt diameter mm	Yield strength MPa	Tensile strength MPa	Recommended torque Nm
M20x2.5	240	400	188
M25x3.0	240	400	371
M32x3.5	240	400	796
M36x4.0	240	400	1,129
M42x4.5	240	400	1,808
M48x5.0	240	400	2,715
M52x5.5	240	400	3,510

CLASS 8.8			Similar to Gr. 5
Bolt diameter mm	Yield strength MPa	Tensile strength MPa	Recommended torque Nm
M20x2.5	660	830	517
M25x3.0	660	830	1,021
M32x3.5	660	830	2,189
M36x4.0	660	830	3,105
M42x4.5	660	830	4,972
M48x5.0	660	830	7,467
M52x5.0	660	830	9,653

CLASS 10.9			Similar to Gr. 8
Bolt diameter mm	Yield strength MPa	Tensile strength MPa	Recommended torque Nm
M20x2.5	940	1,040	736
M25x3.0	940	1,040	1,454
M32x3.5	940	1,040	3,117
M36x4.0	940	1,040	4,422
M42x4.5	940	1,040	7,081
M48x5.0	940	1,040	10,635
M52x5.0	940	1,040	13,748



Our extensive inventory of forging dies covers all popular Liner Bolt head configurations. Special dies are readily made for custom requirements.

**Torque values assume bolt is dry.**  
**Lubricants, plating, etc., can reduce these values.**

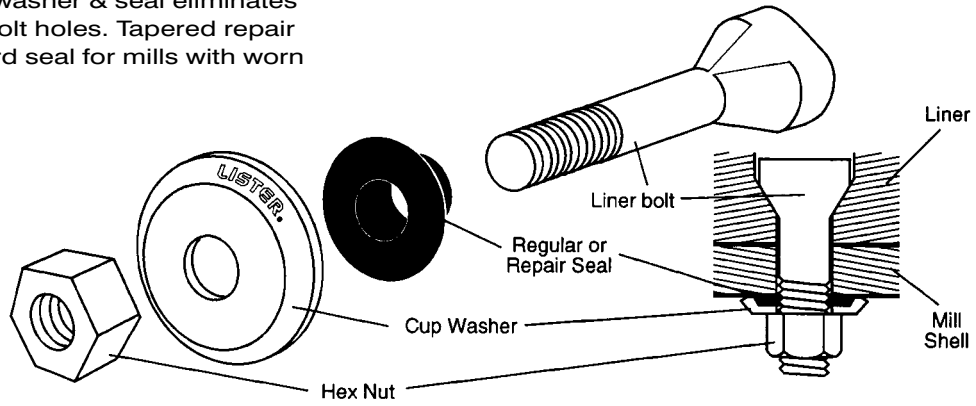
Applications: For use in fastening cast liners to the shells of grinding mills in the mining and cement industries.

### \* ⚠ WARNING

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- Install, apply and use only as instructed.
- Do not exceed a working load limit of 20-25% of break test load.
- Do not use for critical and overhead lifting applications.

**Grinding mill patented cup washer & seal assemblies**

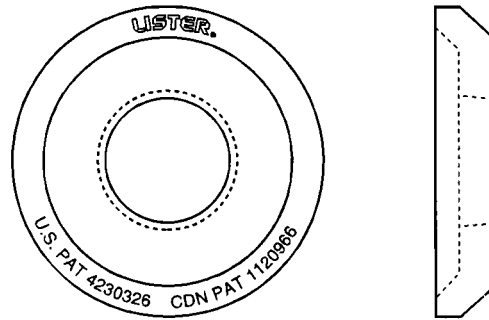
The patented metal cup washer & seal eliminates seepage from the shell bolt holes. Tapered repair seals replace the standard seal for mills with worn bolt holes.



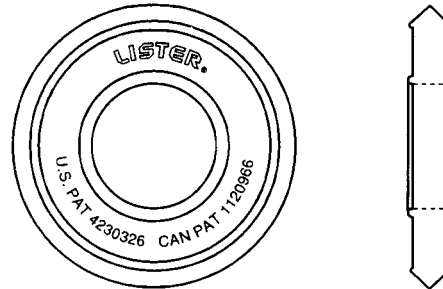
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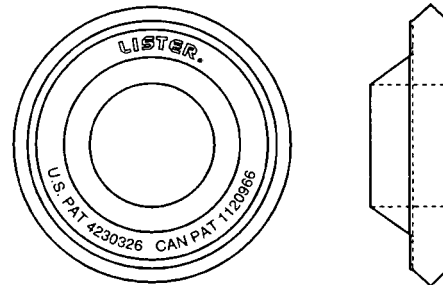
Bolt size	Metal cup washer (in.)			
	I.D.	O.D.	Thick	O.A. height
3/4"	25/32	25/8	1/4	7/16
1"	11/16	4	13/32	11/16
1 1/8"	13/16	4	13/32	11/16
1 1/4"	15/16	4	13/32	11/16
1 1/2"	19/16	4	13/32	11/16
2"	2 1/8	5	5/8	1 1/16



Bolt size	Regular seal (in.)		
	I.D.	O.D.	Thick
3/4"	25/32	25/16	3/16
1"	11/32	31/2	11/32
1 1/8"	15/32	31/2	11/32
1 1/4"	19/32	31/2	11/32
1 1/2"	1 17/32	31/2	11/32
2"	2 1/32	4 1/2	9/16



Bolt size	Repair seal (in.)			
	I.D.	O.D.	Thick	Cone
3/4"	—	—	—	—
1"	1 1/32	3 1/2	1 1/32	2
1 1/8"	1 5/32	3 1/2	1 1/32	2
1 1/4"	1 9/32	3 1/2	1 1/32	2
1 1/2"	1 17/32	3 1/2	1 1/32	2 1/4
2"	2 1/32	4 1/2	9/16	3



Metric equivalent available upon request.

Applications: Used in conjunction with liner bolts to fasten and seal liner installations on grinding mills in the mining and cement industries.

**\* ⚠ WARNING**

- Inspect for wear, deformation and abuse before use.
- Install, apply and use only as instructed.
- Do not exceed a working load limit of 20-25% of break test load.
- Do not use for critical and overhead lifting applications.

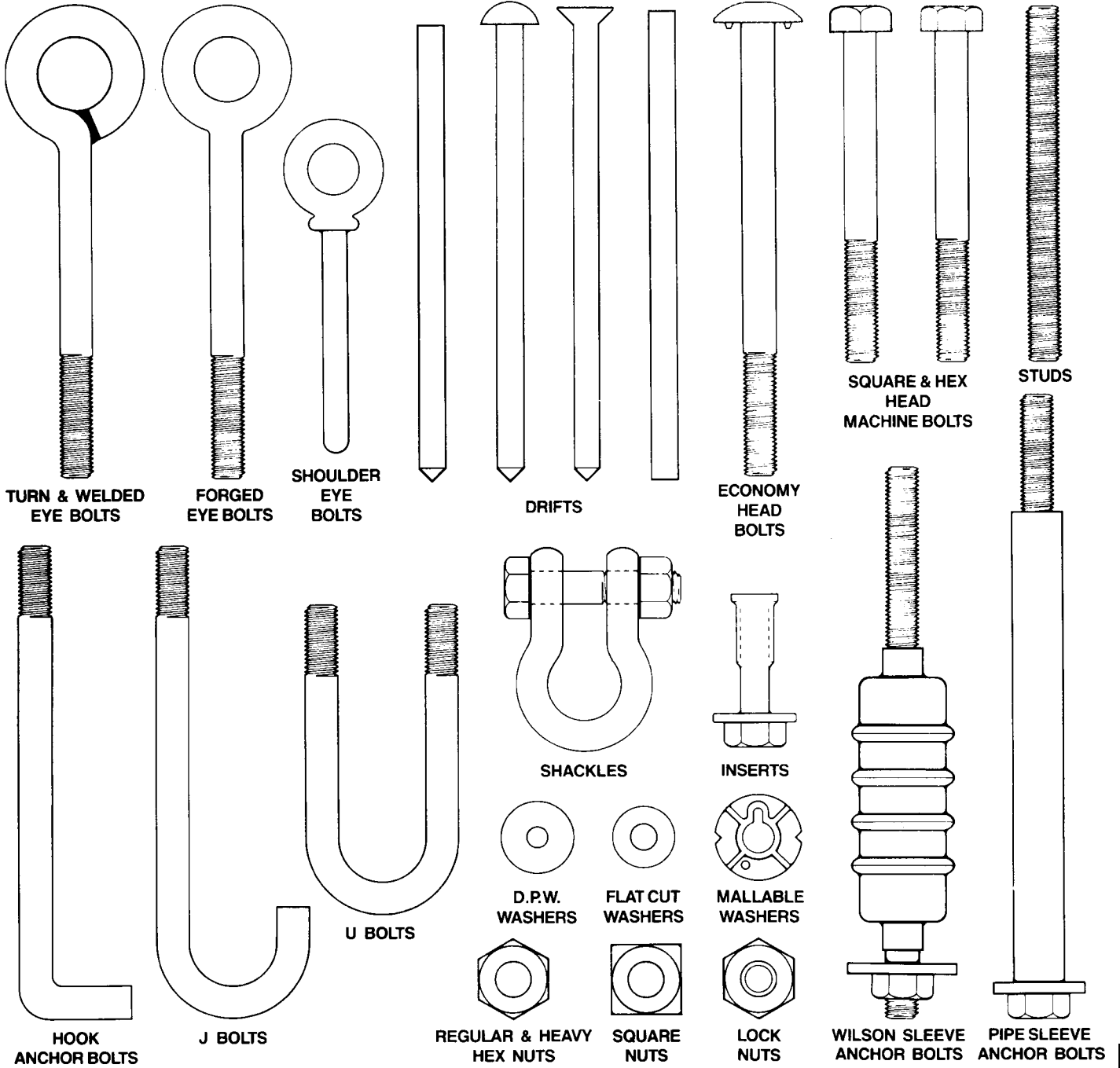
### Heavy construction bolts

**Diameter range**—forgings 3/4"-2"; threading 3/4"-4"

**Material**—carbon, alloy and stainless steels.

**Condition**—as forged; heat treated, galvanized, passivated.

Standard size machine bolts in stock. Custom bolts fabricated to order.



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Adjustable slings — welded .....18-19

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Adjust-A-Link .....21

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